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ORIGINAL ARTICLES.

ANGIO-SCLEROSIS.*

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This first patient appears before you, not because he shows an active condition of disease at present, but because he is one of a group of cases that I propose to present to you—a group manifesting very different symptoms, but all dependent on one and the same trouble, a vascular disease which we may term angio-sclerosis.

Various parts of the circulatory system may be involved. In one phase of the disease the veins alone are affected; in another the arteries and heart; in a third the arteries, veins and capillaries. The primary cause is often a toxic element, particularly that of syphilis or of alcohol. There is no typical clinical picture of the disease for the reason that the lesions are dependent upon the particular set of vessels involved. Thus the predominant symptoms may be referred to the brain, if the cerebral vessels are involved; gangrene may develop if there is absolute occlusion of an artery in a limb; and as the different cases are brought before you, you will see other phases of the same general condition.

I.—The history of the first patient is as follows: "W. P., aged fifty, family history good; is a hard drinker. He had a

chancre followed by a universal eruption twenty-three years ago; took medicine for two months and has never had specific medication since. Ten years ago he had a sluggish ulcer over the hip, which persisted for a long time. Five weeks ago (eleven weeks prior to clinic) a small sore began on the posterior surface of the left leg."

On admission to the hospital the patient had a ragged, deep, indurated, indolent ulcer over the calf of the left leg. The leg was thickened and oedematous, not with the oedema of renal disease which is soft and pits easily on pressure, but with a tough, leathery induration and infiltration of the tissues. On the right leg, though there is no ulcer, you can see a bunch of distended veins which feels like a lot of angle worms under the skin. With the slight obstruction of the return circulation made by rolling up his trousers, the superficial veins are rapidly enlarging. You can readily understand that with veins so lacking in proper tone as these, the constant obstacle to the return of blood occasioned by gravity alone is sufficient to cause a bursting of some branch, a diminished withdrawal of effete products from some area, and, consequently, an ulcer which does not tend to heal spontaneously and which may resist all our efforts to effect a cure.

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There is no condition which will offer so great an opportunity for the establishment of a reputation, as some phase of angio-sclerosis that is amenable to treatment. One may be able to heal an ulcer that has persisted for years; and, as you will see in some of the cases to be brought before you, it is possible to bring a man from an apparently dying condition to one of comfort and relative health. At the same time it is rarely possible to effect a radical cure, and many cases of chronic ulcer will prove obstinate.

This patient was put upon his back, with the leg elevated so that gravity would assist the return circulation so far as possible. An elastic bandage was put around the leg to cause the resorption of the old exudate, and a very simple ointment was applied to the ulcer. I was rather interested to determine whether there was anything of a syphilitic nature about the sore itself, as there undoubtedly was about the underlying condition of vascular degeneration. With this question in view, I suspended the potassium iodid that he had taken only for a day or two, so that there should be no indirect help in the healing of the ulcer. He was given nutritious diet and an occasional dose of Carlsbad salt to aid in the elimination of resorbed products. The improvement is evident to all who can compare his present condition with that of the time of admission to the hospital.

The underlying cause of his arterial and venous changes must be looked after. Alcohol must be interdicted, the occupation should be such as will not keep the patient upon his feet too much of the day, and especially not unless he can walk about, for standing still is worse than walking, since muscular contraction and relaxation aid in the onward flow of blood through the veins. It would also be well for the man to wear constantly on both legs elastic stockings. These should come up above the knees, for I find that the popliteal veins are very noticeably involved in the dilatation. Potassium iodid would be indicated for the purpose of opposing the tendency toward deposition of occluding connective tissue in the intima of the vessels.

II.—The second patient entered the hospital three weeks ago, and I am sure I do not overrate his condition when I say

that he was not expected to live twenty-four hours. He was cyanotic, even his nails were blue; his eyes started from their sockets; he was gasping for breath, and unable to gain the necessary amount of oxygen though his respirations were thirty or more to the minute. His temperature was 100° F., soon dropping to 97°; the pulse was 125 and extremely weak. There was an almost uniform edema of both lungs, and, on account of this condition, the liver was pressed downward about two inches. There was nothing in the family nor previous personal history of the patient to explain his condition. A year ago he had a somewhat similar attack, during which swelling of the feet and shortness of breath were noticed. His present trouble began three weeks ago in the same way, and the shortness of breath is directly accounted for by the edema of the lungs, while the edema, both of the lungs and of the extremities, is to be referred to the circulatory disturbance. To-day, the patient walks into the clinic and says that he feels as well as usual. Yet, while you might not at first sight recognize him as a sick man, you should be able to diagnose his fundamental condition even in the present state.

Arterial sclerosis is a degenerative disease primarily, but the degeneration is followed by an inflammation, and the two processes thenceforth go on hand in hand. A marked thickening of the internal coat of the arteries is caused, producing more or less obstruction. Then there comes a breaking down of the newly formed tissue, with points of necrosis and, later, the deposition of calcareous matter in these points of necrosis, so that the wall of the artery becomes rigid, irregular and as hard, almost, as pipe-stem. Save for the irregularities, the comparison to a pipe-stem in this case would be a good one. Very similar changes may occur in the veins, and I shall never forget a case that was sent to the hospital two years ago by Dr. Benedict. The patient was an old woman whose veins were so calcified that, by tapping on them with a pencil, I could elicit a sound loud enough to be heard all over the room.

According as the change occurs in arteries, veins, capillaries, or heart, one or several combined, and as different parts of the body are involved, various symptoms are produced. Thus, the varicose ulcer

and the stroke of apoplexy are due to the same underlying cause—the latter representing the cerebral type; while we may also recognize cardio-vascular sclerosis, a renal type, and a combination of the latter two in the so-called arterio-capillary fibrosis.

Angio-sclerosis is usually a manifestation of age and yet of age which cannot be measured by years. Some people bring about these changes in their arteries from abuse or overuse, and there is not the least doubt but that some are older at twenty-nine than are others at sixty. The duration of the youthful state of the arteries depends largely on heredity, upon the amount of elasticity of the vessels, upon the longevity of the family. The poisons of infectious diseases are a curative factor, and among the very worst and youngest cases are those dependent on syphilis. Syphilis may produce absolute obliteration of arteries and, thus, gangrene.

You will notice that this man has a very tortuous temporal artery. On attempting to feel the pulse in the left wrist, I come upon what feels like a lymph-node. In the right wrist, the artery makes a backward turn, and as I run my finger along it, it has the rough feeling of the trachea of a bird. Such an artery is often likened to a string of beads. I can feel the artery three inches above the wrist, where it never should be felt, though we may in a lean person feel the beat of the pulse as far as that. There is a difference between feeling an artery and feeling the pulsation of blood through it.

The examination of the heart should verify the diagnosis by an increase in the aortic sound, indicating a resistance to the outward passage of blood from the arteries. The heart-sounds, now, are not abnormal, but when he entered the hospital the first sound was scarcely appreciable, the rhythm of the beat was lost, the action of the heart was reduplicated, intermittent and irregular. There were no murmurs, but there was an exaggerated second sound both over the aortic valves and over the pulmonary artery, since the edema of the lungs as well as of other parts interfered with the onward rush of arterial blood. I believe that the patient has still a congested liver. The upper border is at the fourth rib, where the nipple is located, but the lower margin is an inch below the costal arch.

What was done to relieve the patient? His arterial tension was diminished by doses of glonoin, measured not by the amount but by the effect. Some patients will take only $\frac{1}{12}$ grain, two or three times a day; others will require $\frac{1}{8}$ every hour, and if $\frac{1}{8}$ will not accomplish the desired result, give $\frac{1}{4}$. The very tolerance shows that there is great need of the drug. There was also promptly given a saturated solution of salts with the object of depleting the portal system which, at that time, was overloaded with blood and was giving rise to hepatic congestion. I believe that the general edema of the lower extremities was due in great measure to the portal obstruction and not to the condition of the general circulation. The patient was kept on his back to lessen the work of the heart, and, in spite of the need of depressing blood tension, there was also an indication for stimulating the heart, which was done by the administration of small doses of digitalis. Once the patient was cupped, but I will say that this procedure probably did not relieve him. When you apply cups, you bring about a local congestion and edema, and this is useful in withdrawing blood from an inflammatory process. It is said that you can make an actual imprint upon the pleura, so that there is a possible contraindication to the use of cups in pleurisy. The way to help along a laboring heart, is not to draw blood into any part of the venous circulation which is already overloaded with blood, but to hurry the blood onward. Thus, cardiac stimulants, vasodilators and hydrogogue cathartics are indicated. Under this treatment the heart regained its regularity and the patient feels quite well.

The only sample of urine of which a quantitative examination was made, amounted to 400 c.c. for the 24 hours; was red, acid; of a specific gravity of 1035; contained 12 grams of urea, a small amount of albumin, but no sugar. The microscopical examination was negative. Albumin was found in two of three samples examined.

In almost all these cases there are, sooner or later, renal changes. When the circulation is of such a character renal complication is inevitable if the disease lasts long enough. The degeneration progresses gradually from the other vessels to those of kidney, so that, finally, a

granular kidney results. When there is marked involvement of the kidneys and the urine is scanty, the steam-bath becomes a very useful addition to the treatment, as it calls the skin to our aid in eliminating the waste products which the kidneys can not dispose of.

The question is asked whether bleeding would be indicated to relieve arterial tension. Personally, I do not indulge much in bleeding, though it is undoubtedly an excellent procedure in certain cases. In cases such as this, it would be useful to let off blood in the far or venous side of the circulation, and yet we must consider that the patient is not in a condition to actually lose blood. Though he has too much in his veins, he has not too much, and perhaps not enough, in his whole circulation. Particularly when the pulse is hard and bounding, I have resorted to a substitute for bleeding—profuse purgation. Such a course is indicated when an apoplexy is threatening. You will come upon cases in which one stroke of apoplexy has occurred and the patient has a hard, bounding pulse and sensations of vertigo, and in these circumstances, prompt blood letting is undoubtedly of benefit; yet you can not prove that you have averted a stroke of apoplexy. If there is already a cerebral hemorrhage going on, it may be imperative to diminish blood pressure at once by venesection, but under ordinary circumstances the few hours' delay in bringing about the same end by purgation will be immaterial.

III.—The history of this patient is as follows: "Aged fifty-four, Irish, laborer, single, family history good, moderate drinker up to six years ago, has had gonorrhœa and syphilis; syphilitic eruption in 1864 removed by treatment, recurred a year later and lasted four months, after another course of treatment the eruption disappeared finally. Four months ago had retention of urine, being able to pass only the overflow. Two weeks ago, took cold and suffered with pains in bones and some fever. Appetite poor, bowels constipated, great thirst most of the time."

This patient has not come in here with any active disease; he expresses himself as feeling "mean." He has no real pain but a general soreness, and though he can walk, he becomes easily fatigued. He has some headache, for the most part frontal.

He is rather a robust man, his skin is aged not more than 54, but his arteries are at least 90. They have nearly run their course. His pulse is slow, but the heart itself is not particularly involved; certainly not in the sense that there is a well marked valvular disease or alteration in size. Sooner or later, however, the heart, acting against unyielding pipe-stem arteries, will dilate. The arterial changes are most marked around the coronary arteries in many cases, and these vessels may become partially obliterated. In that case, the heart will receive a diminished blood supply, a fibrosis and fatty degeneration will occur, and a cardiac dilatation with all its symptoms is inevitably added to the type of arterial sclerosis. Usually, such dilatation causes a disproportion between the valves and their openings, so that regurgitation results. Sometimes the coronary arteries become plugged and death follows immediately. This man's aorta would undoubtedly present an ulcerated surface with thick calcareous scales. These may become detached and form emboli wherever they happen to lodge.

The question is asked whether such a patient, with a good heart and degenerated arteries, is not especially predisposed to aneurysm. The point is very well taken, and yet a tabulated list of these cases will show that aneurysm comes much earlier in the course of the disease, usually being developed by the fortieth year. It may be that although the circulatory organs predispose to the occurrence of some lesion, the brittleness of the arterial coats prevents the gradual yielding that is necessary to the formation of an aneurysm.

I believe that the arteritis in this case is syphilitic. It can scarcely be ascribed to heredity; his mother lived to the age of 85, and his father was carried off suddenly at 55, by inflammation of the bowels. In a patient who seems to be otherwise well, with arterial sclerosis so well advanced and without a marked family tendency, the probability is that the lesion is syphilitic.

Alcohol should be avoided. Antisyphilitic treatment should be continued vigorously and for some time. Potassium iodid seems most suited to this stage of the disease, but even here small doses of mercurous iodid may be added with advantage. I would give a very liberal allowance of liquids. Milk is easily digested

and, at the same time, it will aid elimination and will be unirritating to the kidneys. Derivatives are not indicated as a routine, but the tongue is coated and, more on account of the condition of the stomach than for the sake of causing elimination through the bowels, I would recommend the administration of Carlsbad salt. At times, I would stop the mercury and replace it with iron. The amount of change that these arteries have already undergone will not be materially modified. It is as much of a permanent change as would be a scar on the surface of the body.

IV.—The most marked case of angiosclerosis that we have in the hospital at present, is that of a man who was brought here with the expectation that he would die in the ambulance. He illustrates rather the cerebral type of the disease. He is a little rebellious; somewhat inclined to be talkative, though, at other times he is dull; his memory has failed markedly, and he presents various other signs of mental alienation. There is considerable albuminuria, and this morning he does not seem to have clear vision,

since he says that he can see only a few persons present, and has to turn his head little by little to take in a view of the clinic room. He explains that he has not cleaned his eyes this morning, but there is no gumming of the lids. You will notice the peculiar pallor of the hands and extremities in general, and the puffiness under the eyes. These are at present the only indications of the renal complication of the general condition. When he entered the hospital he had pulmonary edema to such a degree that his respirations were above 30 to the minute for several days, and on one occasion reached a frequency of 48. The line of treatment was exactly the same as for the second patient studied.

This patient will probably recover sufficiently to leave the hospital, but he will not improve to any marked degree. Evidently parts of his brain are insufficiently supplied with blood, and we should rather expect those degenerative changes to occur which have been called softening of the brain—the term is not a good one. Without showing the signs of apoplexy, the case is, nevertheless, one that comes under the category of cerebral angio sclerosis.

BENIGN TUMORS OF THE LARYNX; REPORT OF A CASE.

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According to my observation tumors of the larynx, whether benign or malignant, are by no means so common in America as they are in European countries. Whether this be due to external influences, habits of living, or to some racial peculiarity I am unable to say, but these observations of mine are in accord with those other writers upon this subject.

The importance of any disease is never more forcibly impressed upon the public than when it has attacked some potentate or person of eminence; hence it is that since the time when the Emperor of Germany fell victim to the ravages of an endolaryngeal neoplasm, laymen and physicians have viewed with awe and gloomy

prognostications the final outcome of any laryngeal growths.

Long before Emanuel Garcia gave to the world the now invaluable laryngoscope, tumors of the larynx were diagnosed by palpation and auscultation. Morel McKenzie tells us that Koderik operated successfully upon a growth through the mouth about the year 1750, it being perhaps the first authentic case on record. From that time on, various uncertain cases were reported, but it was not until 1850 that Ehrman published in Strassburg his celebrated treatise on that subject with a report of thirty-one cases. In 1852, a still further addition to the list was made by Dr. Horace Green, of New York, who reported fifty-two cases, among which two had occurred in his own prac-

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tice. While the report of these cases had all been of interest, they had been found mostly at post-mortem examinations. By the invention of the laryngoscope new impetus was given to the subject and soon the list was augmented by the report of additional cases. In 1866, among the very first, was a monograph by Dr. Elsberg, of Philadelphia, in which he reviewed the subject and reported thirteen cases of his own. Since then, cases have been recorded, especially by Morel McKenzie of London, Stoerk and Schmitzler of Vienna, Oertel of Munich, and, in 1876, Fanvel, of Paris, reported three hundred cases with two hundred and twenty operations. Fanvel was among the first to introduce instruments for the successful removal of these growths through the mouth. An excellent work was published by Dr. Paul Bruns in 1878, on the relative merits of endolaryngeal treatment and throtomy. Since that time so many cases have been reported that, now, they are no longer looked upon as a rarity. One case occurring in my private practice, is of enough interest to allow some practical points to be deduced.

H. M., German, aged twenty-five, baker, presented himself at my office on account of hoarseness which was gradually increasing. The patient is strong, healthy-looking, and gives no external signs of disease. Says that he has always enjoyed good health, the only trouble being with his throat, with which he has suffered for the last two years. He suffers a great deal with colds, at which times his throat-trouble is much more irritating. He has been hoarse now for two years, but beyond that there is no uncomfortable symptom. His breathing is never interfered with.

No trouble was experienced in getting a good laryngoscopic picture. Anteriorly on the free and lower border of the left vocal chord, there could be seen a little polypoid mass about 6 mm. broad. It was not pedunculated, a portion of it protruding above the vocal chords on attempted phonation. With a probe the mass was found to be freely movable, and it bled but slightly from such manipulations. A diagnosis of papilloma was made clinically, which was afterwards confirmed by the microscope. The vocal bands and sides of the ventricles were partly covered with a thick, dirty secretion. The mucous

membrane appeared atrophic, and this condition extended up the pharyngeal wall into the nasal cavity. On examining the nose a marked case of atrophic rhinitis was seen, with large flakes of dirty yellowish secretion clinging to its walls. It was very evident that this secretion was exaggerating the condition which already existed in the larynx.

As a laryngeal image could be perfectly obtained, there was no necessity for training the parts in order to carry out the instrumental manipulations which were to follow. The tumor was removed without much difficulty with a pair of laryngeal cutting forceps. At the point of removal the chord was very much thickened and parts of the basal attachment of the tumor remained. These latter I removed with astringent applications of chloride of zinc and the electro-cautery. From this time the voice was much louder and clearer, the only trouble being a slight degree of hoarseness in the morning, due to the clogging up of the larynx during the night with the sticky atrophic secretion.

Tumors of the larynx are divided, like tumors in other portions of the human economy, into (1) benign; (2) malignant. Fortunately for the human race the latter class is very rare, and since the case reported comes under the head of benign, my few remarks will be confined to that class.

As to the cause of these benign growths many writers differ. Sir Morel McKenzie holds that chronic congestion of the laryngeal mucous membrane is the most prolific cause of these growths, and, since a catarrhal condition of the nose and throat is a leading factor in this chronic congestion, it must be looked upon as a most decided predisposing cause. In like manner many writers hold that a chronic catarrh of the nasal mucous membrane is the main causal factor in producing the different growths in that locality—polypi, fibrous excrescences, exostoses, etc., and some of them go so far as to say that it is the only cause. Lennox Browne is another writer who believes in local irritation as the exciting cause. He quotes McKenzie as saying "that diathetic conditions, as syphilis, tubercle, etc., exercise a decidedly antagonistic influence to the development of new formation," which Browne strenuously denies and cites several cases as sustaining him in these views. Cohen

believes that the exanthemata, variola, scarlatina, etc., through the catarrhal condition which they occasion upon the respiratory mucous membrane, are frequently exciting causes. McKenzie says that the professional use of the voice is one of the circumstances favorable to the development of these growths, and declares that 21 per cent. of his patients old enough to have such an occupation, were subject to this influence. Strange to say, in this statement there is unanimity between him and Lennox Browne, and both of them have had large opportunities for examining the throats of professional vocalists.

As to the age in which these growths most frequently occur, there appears, as usual, a diversity of opinion. Dr. Tabold in his article "Die Chronischen Kehlkopfskrankheiten," says that the affection is most common in middle life, from the thirtieth to the sixtieth year; that laryngeal polypi are least frequently seen in childhood. Dr. Causit, on the other hand, believes that they most frequently occur in early infancy, and goes so far as to say that the disease is very often congenital. Dr. Arthur Edis has reported (*Transactions of the Obstetrical Society of the United Kingdom*), the case of a child who died from suffocation thirty seven hours after birth, and a cyst about the size of a hazel nut was found in the larynx. Dr. McKenzie, from the statistics of cases treated by himself, concludes that the most favorable time of life is between the ages of twenty-five and fifty. Doctor Burns has reported a case of tumor in a patient seventy-four years of age, while Rosenbach has reported 86 operations for laryngeal polypi, the youngest being four and a half years old, the oldest between sixty and seventy.

Benign tumors of the larynx are divided by most writers into the following classification:

1. Papillomata.
2. Fibromata.
3. Myxomata.
4. Cystic tumors.
5. Angiomata.
6. Lipomata.

Of these the papillomata are by far the most common, and such was the character of the neoplasm reported by me. McKenzie says, "In my one hundred tabulated cases, sixty-seven were judged to be of this character." It would be impossible for me in this short article to go into the clinical

characteristics of all the benign neoplasms, and since the case reported above concerned only a papilloma, my remarks will be confined in the main to this class, both in regard to symptoms and treatment.

Papillomata of the larynx may be either sessile or pedunculated, and while they usually occur singly, they may be multiple in their growth. They are usually small and are by no means limited to one special position, although Lennox Browne says that they occur most frequently in the anterior portion of the vocal chords, and on the right more frequently than on the left. They are usually of a pinkish color and, according to Browne, they may not bleed easily when touched with a probe, which is one of their diagnostic points.

The symptoms to which they give rise depend largely upon their size and position in the larynx. For instance, growths upon the epiglottis will occasion some discomfort upon deglutition, while those upon vocal chords will have aphonia as their most prominent symptom. Aphonia is, perhaps, the most prominent symptom, since the vocal bands are more often the seat of origin for these growths than any other point in the larynx. Another noticeable fact, which has been mentioned by various writers, is that a small growth is more apt to produce aphonia than is a large one, since the latter sometimes takes the place of a true vocal cord in the patient's effort to articulate. In the patient referred to, hoarseness was one of the prominent symptoms, and in fact the only one. He had been treated with all the remedies known to materia medica, both by internal administrations and by inhalations, with, of course, no beneficial results. And right here I should like to call attention to the fact that general practitioners are not as familiar with the use of the laryngoscope as they should be—knowledge which requires but a small outlay for the necessary instruments and but very little practice for the proper manipulation of the same. Cases other than mine, are frequently reported, where hoarseness and the other symptoms of chronic laryngitis have been treated for years with the ordinary remedies, to be relieved finally only by the removal of a laryngeal growth which was found to exist.

The treatment of papillomata is their removal as thoroughly as possible. I say

possible, meaning of course their removal through the mouth, for whenever they are so large as to render it impossible to remove them in this manner, their size will very probably soon demand a laryngotomy. These neoplasms not being primarily malignant, are injurious mainly in their interference with phonation and the chances of their becoming so large as to interfere with respiration. When not excessively large their removal through the mouth is usually not very difficult; yet this operation, like many others, requires considerable dexterity on the part of the operator. Various instruments have been devised for the removal of the growths, in the way of cutting forceps, laryngeal knives, snares, etc., but I have found that the most satisfactory instrument is the Gibb's laryngeal écraseur. I believe with Lennox Browne, that every instrument capable of doing injury to the larynx should be thoroughly guarded. The cold wire snare is the least dangerous to the parts and when rightly manipulated is most satisfactory in its results. Cutting forceps, as a rule remove only a small portion of the growth at a time, and that usually with a good deal of pulling and tearing, and with much discomfort to the patient. Prof. Storck's cutting instruments are of course free from these objectionable features. Dr. McCoy, of Philadelphia, extols the galvano-cautery for the destruction of the growths, but any one who has ever tried to use a cautery point in the larynx knows how apt this organ is to contract at the wrong moment and in this way receive irreparable injury. In the majority of cases, even with the use of cocaine, the patient must be trained for a week or two before he or she will endure instrumental manipulations in the larynx. Some laryngologists use strong chemical caustics to destroy these neoplasms, but such procedures are obsolete, and are entirely too tedious if the tumors are large enough to be grasped by instruments.

The question has often been asked whether these benign growths are not apt to be transformed into those of a malignant type, especially if there is instrumental interference. In answer to this question, I can do no better than recite the ideas of the late Sir Morel McKenzie on the point. He says that beyond the recurrence of the neoplasm at the point of removal, he knows, in his own experience,

of no case which has subsequently taken on a malignant type from laryngeal irritation. In the literature upon the subject, he knows of but three authentically reported cases.

To sum up in a few words the main points brought forward on this article:

1. Neoplasms of the larynx are either (a) benign, or (b) malignant.
2. Of the benign growths, papillomata are by far the most frequent, and, as a rule, occur between the ages of twenty-five and fifty.
3. The main symptoms are (a) aphonia, (b) dysphagia, (c) dyspnoea.
4. The best treatment is their removal whenever possible.
5. The best authorities agree that a transformation into the malignant type from instrumental interference does not occur.

The Chemical Pathology of Uræmia.

In a recent experimental study of uræmia, Hughes and Carter have contributed to the pathology of this important condition (*Amer. Jour. of the Med. Sciences*). They conclude that there is one poison, present alike in uræmic human blood, in dropsical effusions in uræmia, and in dog's blood in experimental uræmia; and that this poison is not one of the ordinarily recognized constituents of the urine, as generally believed, but one whose nature or even existence has not before been recognized. The facts that its action is much lessened after subjection to moderate heat, and that it is not readily dialyzable, seem to indicate that the poison is an albuminous body; while clinical evidence indicates that it is not a constant constituent of the blood, but produces the uræmic condition by accumulation, owing to the inability of the kidneys to excrete it, or more rarely by a sudden and enormous production. The order in which serums stand as to their toxicity, proceeding from the most toxic to the least, is, man's, the dog's, the horse's. This suggests to the writers that the origin of the substance is to be traced to the character of the food, which is more nearly carnivorous with man and the dog and purely herbivorous with the horse, and that its production takes place somewhere in the digestive tract.

COMMUNICATIONS.

STRYCHNIA AS A CURATIVE AGENT IN THE TREATMENT OF ASCITES.*

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In our eager and no less industrious search after new and often untried therapeutic agents for the cure of disease, or the relief of human suffering, the older and sometimes more reliable and more useful remedies are in great danger of being overlooked if not entirely discarded from our list of remedial agents.

Having had occasion several years ago to call the attention of the profession to the subject of this paper, I feel that an apology may be due this association for introducing at this time so trite a subject as the treatment of ascites.

Some time ago, while discussing the treatment of abdominal dropsy with a member of this body, he remarked that the treatment was as simple as the cure is easy.

Upon interrogating him as to this all sufficient remedial agent, his reply was mercury, calomel in small and repeated doses. This is truly a simple treatment, though it has not proven to be sufficient, satisfactory or always safe in my hands.

The fact is familiar to all, that dropsy, abdominal or other, has long been regarded as a symptom of disease rather than a disease itself. And, in the language of a most distinguished† writer, it has been affirmed that it would be more philosophical and scientific to treat the original malady upon which the effusion or accumulation depends, to erase dropsy from the list of substantive disease and to place it in the catalogue of mere symptoms.

But this, in my mind, is a very mistaken view of the matter. For, first, it is oftentimes uncertain, while the patient is yet alive, what or where the primary disease may be; and even after death we sometimes can discover no organic change that would satisfactorily account for the

effusion. Practically speaking, in such cases the dropsy is the disease, and the sole object of our treatment.

And, secondly, dropsy is in fact to a medical eye in all cases, something more than an effect or symptom of disease. The imprisoned liquid is often a cause of various other symptoms; embarrassing by its pressure, important functions and even extinguishing life. The removal of the dropsy, (although its original cause, of which it was a symptom, may remain behind untouched, to be again productive of effusion under circumstances favorable to its operation) will often restore a person to comparative comfort, or even to what, so far as his sensations and powers and belief are concerned, is to him, for the time, a state of health.

Without essaying any refinement in diagnosis, or attempting to distinguish dropsy as a disease and dropsy as a symptom in the treatment of ascites, it is proposed to speak of it as a disease *per se*, and more particularly of the use of strychnia as a curative agent in that disease. No sound practitioner, however, will close his eyes to any concomitant which may appear, whether it be functional or organic; or fail to supplement any line of treatment with remedies specially adapted to existing conditions whatever may be his faith in that drug or material. Nor would he neglect any febrile movement, where such condition exists any more than he would ignore the existence of an engorged liver, or obstructed portal circulation, or torpid state of bowels, or cardiac or venal derangement. Adjuvants are useful and helpful in all cases.

It is deemed safe and within the limits of conservatism, founded on a somewhat extended experience, to speak of strychnia as a curative agent in the treatment of ascites. While the claim to priority in the use of this agent as above stated is just

*Read by title before the South Carolina State Medical Association, 1894.

†Sir Thomas Watson.

so far as my knowledge goes, it is the result of an accident. Many years ago there came into my hands for treatment a negro woman about forty years of age, and the mother of eight or ten children, who, in the hands of other practitioners in the neighborhood, had gone through the usual course of treatment without avail, and who had already undergone many tapplings. In my hands these were continued with considerable regularity at intervals of fourteen, sixteen to twenty days, until paralysis of one side took place. For this strychnia was prescribed, and the trocar or other evacuating instrument was never afterwards necessary in her case. The dropsy was cured, as was also the paralysis of the leg, though the use of the arm was never fully restored.

Some years after, the case of another woman presented itself. She was a bright mulatto, about thirty-six years of age, the mother of seven children, and had enjoyed good health previous to this attack, which set in with decided inflammatory symptoms rapidly resulting in œdema of the lower extremities soon followed by peritoneal effusion which demanded the use of the trocar.

After a number of tapplings the intervals between some of which did not exceed ten days, she began the use of strychnia, and was cured of her dropsy. During the second year afterwards she bore another child, dying five or six years later in the hands of another practitioner, and without any return of her dropsical symptoms.

A still more remarkable case, perhaps, is that of a gentleman forty-eight years of age, who at various times had been in the hands of neighboring practitioners, (as the patient informed me) for treatment of supposed incipient tuberculosis, he having suffered for some time with dyspœna, cough and sanguineous expectoration, followed by wasting, inability to preserve the recumbent posture, œdema of lower extremities, and other evidences of anemia. To be brief, when this patient was first visited, more than a year after the first symptoms presented themselves, he was found laboring under anasarca as well as ascites. There was also distressing dyspœna inability to rest in the recumbent posture, some cough and tumultuous heart action. In this case the dropsy was evidently symptomatic, and had its origin, no doubt, in valvular insufficiency

with blood stasis of the pulmonary tissues resulting in cough with bloody expectoration. Under the use of cardiac sedatives, diuretics and purgatives there was decided amelioration of the more distressing symptoms, but the anasarca, *pari passu* with the ascites, advanced until within a few weeks they assumed the most prominent place in the category of symptoms.

With the distressing peritoneal effusion enormously swollen genitals superadded to the general swelling of the body, face and extremities. Soon the cuticle gave way on the lower extremities, discharging each day a considerable quantity of serum.

Under the use of strychnia there was gradual improvement. When last heard from, (three months ago,) this patient was eating and sleeping well, being then about the farm attending to his affairs in comparative comfort, though with some œdema still present in the lower extremities.

A cure was not expected or hoped for in this case, though it seems that impending dissolution has been averted for more than two years under the continued use of strychnia. The use of this was instituted early in this case in connection with remedies previously mentioned, and given in 1-30 gr. doses every eight hours, gradually increasing the dose until the 1-11 gr. was reached, when the muscular pain of the arm became so great as to make it necessary to reduce the dose, or for a time suspend its use entirely. That its physiologic effect shall be experienced seems necessary to its full therapeutic action, and it has been found safe to increase the dose to that extent.

Case 4 was that of a young lady twenty-years of age, who was first seen in April, 1893. She had previously been in charge of another attendant whose service had been, as reported, very irregular, and who had suspected incipient tuberculosis on account of the prominent pectoral symptoms, cough, dyspœna, rather free expectoration, and the known fact that several members of the family had died of that disease.

At this visit, besides great irregularity of pulse beat, there was present dyspœna, slight cough, diastolic heart murmur, œdema of feet and ankles extending nearly to the knees, and ascites so prominent as to offer mechanical obstruction to the respiratory act even in the sitting posture,

recumbency being quite out of the question. This was evidently another case of symptomatic dropsy caused by grave structural lesion of the centre of circulation.

Under the use of diuretics, cardiac sedatives, occasional hydragogue cathartics and the constant use of strychnia gradual improvement took place. The patient was so far relieved as to be able to rest in bed, eat well, take out-door exercise, even going so far as horseback riding. At this period treatment was interrupted, and was not renewed, (owing to the absence of the attendant,) until the swelling had again

made considerable progress. When treatment was again applied for, and the strychnia given as before, it was without effect, and the patient died eleven months from date of first visit.

This brief and very cursory account of these four cases of ascites in which strychnia was freely used, will, it is hoped, suffice to show the effect, and serve also to bring to the notice of the Association an experience with a remedy, the mention of which, so far as my reading or observation goes, does not appear in our text books, or in current medical literature, as a therapeutic agent in the treatment of ascites.

CASE OF ENDOCARDITIS AND PERICARDITIS WITH EFFUSION ACCIDENTAL TAPPING OF RIGHT VENTRICLE AFTER APPARENT DEATH—RECOVERY.*

ALLEN THOMSON SLOAN, M.D., EDINBURG, SCOTLAND.

M. B., aged 19 years, a tall, fairly healthy young lady, was seized on 12th May 1894 by a severe attack of erysipelas, which affected chiefly the left side of the face and head, and although it spread over the forehead and part of the right side of the face, was fortunately arrested, under treatment with ichthyol and lanoline externally and iron internally, on the fifth day, and an apparently rapid recovery was about to ensue. The temperature, which at the commencement varied from 103° to 105°, had become normal, all sign of inflammation had disappeared, and a perfect cure seemed established, when suddenly, without any fresh exposure—the patient never having been allowed out of bed—a very severe attack of rheumatic fever developed.

To this there was a marked family predisposition, her father having suffered from a prolonged attack of acute rheumatism, which left him a martyr for sixteen years to subacute attacks, and completely deformed him; and her only brother having twice had attacks of rheumatic fever, and suffered frequently from rheumatic sore throat. Her mother and two sisters are alive and well; but her

father, who at the time of her attack was suffering from tuberculosis of both lungs—the result of influenza—has since died. Her maternal grandfather and grandmother are octogenarians and in good health, but on the paternal side there is a distinct tendency to phthisis.

Her previous illnesses all indicate the same susceptibility to rheumatism. When two months old she suffered from bronchitis, which lasted about a fortnight. At five years of age she had rheumatic fever, and two years afterwards suffered from measles, which was followed by a second slight attack of rheumatic fever. Between the ages of nine and ten she had diphtheria, but for the next eight years enjoyed perfect health. In the beginning of February, 1893 she was attacked with scarlet fever so severely, that from the outset she was put on a water-bed, and in spite of daily 30 gr doses of salol and continued lying between blankets, she was seized with a third sharp attack of rheumatic fever, with accompanying endocarditis. This left a well-marked systolic mitral murmur, which, however, in the course of a few months entirely disappeared, and with the exception of slight oedema of the right foot, she enjoyed robust health till within a few weeks of her

*Read Before the Medical-Chirurgical Society of Edinburgh, December 5, 1894.

present attack, when she began to feel her duties as a school teacher rather fatiguing, and doubtless the anxiety regarding her father's health predisposed her to the attack of erysipelas, which was the starting point of the present, her fourth and most severe attack of rheumatic fever.

Salicylate of soda, in 10 and then in 15-grain doses every three hours, along with aromatic spirits of ammonia, was substituted for the quinine and antipyrin, which had been given along with the iron during the attack of erysipelas, and had been very badly borne. From the 17th to the 22nd fair progress was made, the temperature varying from 99° to 103° , but with a distinct tendency to an evening rise. No great relief, however, was got from the pains, which were general throughout all the joints, and were most severe in the muscles of the calves. An 8-grain Dover powder was given at bedtime with marked benefit, as a few hours' sleep was induced, and the restlessness, which had been characteristic from the first, somewhat allayed. A daily careful examination of the heart revealed nothing till the morning of the 24th, when slight præcordial pain and a feeling of oppression about the chest was complained of, followed in the evening by well-marked friction, the "to-and-fro" murmur being audible over the whole base, but loudest and apparently nearest to the ear over the pulmonary area. The dose of salicylate of soda was increased to 20 grains every four hours, and digitals added to quieten and strengthen the pulse, which from the beginning of the attack had varied from 100 to 116 per minute, but had been of fair strength, regularity, and volume. Warm poultices and sinapisms were applied locally, with the result that in five days the friction had entirely disappeared, and the patient again seemed in the fair way of recovery. Still the temperature kept irregularly rising and falling in a suspicious manner without sufficient ascertainable cause, and the muscular pains in the limbs became even worse. Salicin alone, and combined with antipyrin, was tried, but ineffectually; and considering the attack to have a possible septic origin, salol in 12-grain doses every four hours was substituted, with a slight resulting decrease in fever, but no diminution in pain. In fact, the only drug administered with certain benefit was the

old-fashioned but reliable Dover's powder. During all this time the services of a skilled nurse had been utilized, and every precaution as to diet and the general treatment of a patient suffering from acute rheumatism had been most scrupulously and carefully observed. The urine, tested twice a week, presented no abnormality other than scantiness in amount and excess of urates.

From the 28th of May to the 4th of June the condition of the patient remained much the same, but on the evening of this day there was a return of the friction, and in addition a well-marked systolic mitral murmur was audible. Hourly, almost, a change for the worse progressed, hastened by the thought of parting from a dying father, who was being removed to the country in the vain hope of prolonging his life, and without an interview. Every movement was accompanied by excruciating pain, mostly in the muscles of the lower limbs; nourishment was taken, with difficulty, owing to occasional attacks of sickness; an irritable, hacking cough developed; the pulse became rapid—120 to 140 per minute—feeble, and dicrotic, and the respirations were greatly increased reaching to 30 and 50 per minute. The livid, anxious countenance, the pallor of the lips, the working of the *alæ nasi*, the dilatation of the veins of the neck and the increased general restlessness, all indicated rapid effusion into the pericardium, which physical examination too truly revealed. The area of cardiac dulness was greatly increased, extending fully half an inch to the right of the sternum, up to the second interspace above, but below and to the left was indistinguishable from a dulness which extended over the whole of the left lung, doubtless due to compression from the bulging pericardium, and probably also to some actual pleuritic effusion, as all breath-sounds were inaudible over the whole of the left base, and up to the middle of the scapula. Friction was still to be heard, but the actual heart sounds were distant, feeble, and obscured.

From the 8th to the 11th matters got worse, the changing color of the face indicating the possibility of a fatal faint at any moment, and an ever-present terror of approaching death adding greatly to the patient's discomfort and pain. By this time all anti-rheumatic remedies had been stopped, and stimulants, in the form

of champagne and brandy, freely given, while a mixture of strophanthus, strychnine, and iron was added with a view to keep up the heart's action. Two blisters were applied over the præcordium, and sinapisms to the bases of the lungs. Curiously, all the time the patient could only lie in an absolutely recumbent position, any attempt to raise her with a view to ease the breathing having quite the opposite effect.

My mind was gradually being made up that tapping the pericardium alone would benefit the patient, so on Tuesday, June 12th, Dr. Bramwell was called in consultation. So grave was the patient's condition during the afternoon that the subject of tapping was not even mentioned between us, and the application of another blister was the only remedy suggested. In addition to all the other symptoms, considerable difficulty in swallowing had arisen, showing further increase in the effusion. The blister was applied a little lower down and more to the left than the previous ones, exactly over the apex-beat, which now corresponded to the left nipple.

On the following morning, June 13th, I set up the aspirator and had it ready exhausted in an adjoining room, though the friends of the patient greatly objected to its being used. The pulse, which had been so rapid, had become alarmingly slow—80 per minute—and the nurse was warned if there was further slowing to send at once for assistance.

During the afternoon the patient was seen by Dr. Calder of Leith—a personal friend—who was then of opinion that, tapping or otherwise, she had only an hour or two to live.

About 8 P. M., on my way to the house, and whilst about four minutes' walk from it, I was met by a young lady, who told me to hurry, as my patient was just dead. I ran as quickly as possible, and found that Dr. James Smith had been summoned, to find her either in a fit or faint. The pulse was uncountable and hardly to be felt, and the livid pallor of the face, profuse, cold perspiration, and changing, startled expression, indicating approaching death. First, 30 minims of ether were injected into the arm, and then a sudden dilatation of the pupils and rapid receding of the pulse warned us of further need of stimulation, and 30 minims were injected into the left breast. I proposed tapping;

but as the friends were anxious first to see Dr. Bramwell, Dr. Smith ran to telephone for him. Immediately afterwards the heart and respiration stopped, and in the moment of excitement I jumped up, seized the aspirator, and plunged the needle into the fourth interspace, about half an inch to the left of the sternum and a little below the left nipple. To my astonishment, from 8 to 10 ounces of pure blood flowed rapidly into the bottle of the aspirator and then suddenly stopped, and to my dismay I found I had penetrated a cavity of the heart. As I was slowly withdrawing the canula, regretfully telling the nurse it was all over and to close the patient's eyes, to my surprise the heart made first a feeble, irregular movement, then gave a sudden strenuous jump and, finally, like a pendulum regaining its swing or a runner his stride, it started to beat again in the race for life. In moments of intensity it is difficult to estimate time, but I should say fully half a minute had elapsed between the introduction of the needle and the restarting of the heart-beats. It was an extraordinary sensation to feel the heart beating more and more forcibly against the point of the canula, which was gradually withdrawn so as not to further injure the heart-wall.

I was standing with my thumb on the puncture made by the needle, when Drs. Bramwell and Smith made their appearance. My uppermost feeling at first, was one of regret that I had converted a patient practically dead into one apparently dying, and sincerely did I lament she had not been left to pass away in peace, for a most pitiful scene was now enacted for an hour. Occasionally there was given a heart-rending shriek, quantities of frothy mucus were half-coughed, half-vomited and had to be swept out of the mouth with a towel, the blood went ebbing and flowing from the cheeks, which were first ashy-grey then purplish in hue, the pupils were dilated to their fullest extent, the running, following pulse was quite uncountable and the patient had every appearance of one dying asphyxiated. Another dram of ether was injected, with the result that the patient became maniacal, and Dr. Bramwell's suggestion, first one-sixth and then another one-sixth of a grain of morphia was administered hypodermically to keep her quiet. This had a slightly soothing effect, and Drs. Bramwell and

Smith now left, thinking it quite impossible the patient could live through the night. In another hour, however, her aspect had vastly improved, the lividity of the countenance and pallor of the lips had disappeared, the breathing was easier and the mania was succeeded by the most delightful feeling of intoxication, the patient repeatedly breaking out into ripples of laughter, and saying, "Oh, how nice! What a dear, kind doctor!" "Oh, how funny! Needles and pins, needles and pins running down both legs and arms!" In another half hour she was able to recognize her mother, who had been brought in from the country. The services of two fresh skilled nurses were obtained, and with injunctions that she should be freely stimulated with champagne and brandy, she was left for the night. The blood, which filled one-third of a 30 oz. Winchester jar, had formed a solid clot, and had to be broken up with a stick and dissolved with soda and hot water before the bottle could be cleaned. In it there was no apparent mixture with serum, and clotting had taken place early and was specially firm. The smallest size of the ordinary aspirating needle was used.

During the night the patient was inclined to wander, and the pulse remained very rapid, changeable and irregular, while the respirations varied from 22 to 34 per minute, broken at intervals by a prolonged sigh. Occasionally great anxiety was caused by the deathly pallor of the lips spreading round the angles of the mouth, at which times a little brandy or champagne was administered in teaspoonfuls. In the morning consciousness completely returned, and the patient was able to take half a cup of tea and a biscuit. She had no recollection whatever of the dreadful crisis she had passed through, having been quite unconscious during the operation of tapping; and when puzzled as to the piece of plaster over her left breast, was told it was part of the dressing of her blister, as it was thought wiser to avoid any excitement. The pulse varied from 118 to 122 per minute, and was still very feeble and irregular, with a long pause at every fourth beat. The most absolute rest was enjoined; liquid nourishment was given in small quantities frequently, and stimulant only in drachm doses, and with caution, in fear of over-exciting the already too tremulous

heart's action. In the afternoon the temperature rose to $101^{\circ}-4$, but this was accounted for by the exhaustion and the general feeling of soreness, due to continued lying in the same position. As there was still a tendency to mental excitement and no further sleep had been obtained, at 12.30 A. M., 15 grs. of bromide of potassium were given, after which she slept till 2 A. M. At 4.30 there was great restlessness, and other 15 grs. were given, with the result that repeated short sleeps were obtained between the times of administration of nourishment. Two days after the operation the temperature fell suddenly to normal, and the pulse from 104 to 40, which occasioned great anxiety; and this happened from time to time, till the pericardial effusion cleared away about eight days afterwards, while the slightest movement on the part of the patient caused immediate paling of the lips and face.

It is needless for me to detail the daily progress of the case, which was hourly observed and noted by the two nurses to whose superb after-attention the patient owes her life. It will suffice for me to point out that after the fifth day there was no rise in the temperature above 99° until July 2d, and it was due to slight gastric disturbance, the consequence of overfeeding; that the pulse first became regular, then gradually slower, till on the 22d of June it reached the normal rate of 76, and the respirations, which had varied from 22 to 30, correspondingly declined to 18 per minute. During the first twenty-four hours no urine was passed, and for seven days after only 12 to 14 ounces daily, thick with urates; but the patient continued at times to perspire so freely that her flannel gowns had to be changed frequently. The first urine passed contained no sugar nor albumen, but was greatly discolored owing to the previous free administration of salol. Solid food in the form of white fish was first given six days after the tapping, and the cardiac tonic of arsenic, strophanthus, strychnine and iron resumed. Fruit in the form of bananas and oranges was allowed, and strong soups flavored with vegetable juices given with a view to combating the profound anæmia which had ensued. Stimulants were only given when specially called for, and the bowels relieved by glycerine enemata. The only

complaint the patient had was about the soreness of her bones, owing to her great emaciation; but an attempt to put her on a water-bed caused such alarming faintness it had to be abandoned.

It is the most extraordinary fact that here was a case of rheumatic fever, apparently of septic origin; which no therapeutic agent with the exception of the opiate, had done anything to alleviate, which almost nightly for three weeks had produced a temperature of 104° ; and which, with its complications of endocarditis and pericarditis, had nearly caused the death of the patient, suddenly and finally arrested by the heroic process of drawing off ten ounces of blood direct from the heart. At no time afterwards did the patient suffer from the very slightest rheumatic pain, whilst previously she was practically never free from such night nor day.

For the first five days physical observation could only consist of stethoscopic examination over the heart; but till Tuesday, the 20th June, the heart sounds were represented by irregular, muffled thumps, and were quite indistinguishable in any area. On that day they could be faintly heard and localized—the first sound feeble in the aortic, tricuspid, and pulmonary areas, the second relatively much accentuated; while in the mitral area, and especially over the left nipple, a soft blowing systolic murmur was distinctly audible, with a less certain pre-systolic. Daily the sounds became clearer, and when the patient became stronger, percussion revealed the gradual disappearance of the pericardial effusion, which was further hastened by the daily external application of iodine. A fortnight elapsed before the lungs could be satisfactorily examined, but at the left base there was still extensive dullness and absence of breath-sounds. Rubbing with turpentine, iodine and blister were successful in removing this, and in three weeks, except for great debility, the patient was physically perfectly well, the systolic mitral murmur being the only persistent indication of what she had passed through.

Dr. Bramwell, who daily had looked for some announcement of the patient's death, kindly revisited her on Friday, the 23d, nine days after the tapping and found the young lady whom he had left *in extremis*, apparently without the faint-

est hope of recovery, enjoying, through the kindness of a too indulgent nurse, a plate of strawberries and cream. In a month the patient was allowed up on a couch, and in another week to make personal efforts which had previously been forbidden; and it was the utmost gratification to me that within seven weeks from the time of cardiac aspiration she was able to be driven seven miles into the country to visit her father, the shock of whose death a day or two afterwards she stood remarkably well. A week after this she was sent to the country and since then has enjoyed perfect health.

December 5th, 1894.—The patient continues in excellent health; she has had no return of the rheumatism, and the cardiac murmur has entirely disappeared.

Sheridan's Wit.

Richard Brinsley Sheridan was never at a loss to exhibit his wit. Once while visiting, feeling rather weary and wishing to rest, he was asked by a fellow-guest whom he did not admire if he did not wish to accompany her for a walk.

Glancing out of the window, Sheridan replied: "It is very cloudy. We shall be caught in the rain."

The other waited awhile. Shortly the sun came through the clouds. "Shall we go now?" she asked. "It has cleared up."

"Why, yes; so I see," said Sheridan. "It has cleared up enough for one, but not enough for two. You go,—*Harper's Young People*.

A Treatment for Acne of the Face.

In an abstract from the *Bulletin General de Therapeutique* which appears in *Lyon Medical*, the writer gives the following formula which, he says, has often been employed at Saint Louis with success: Fresh lard, 750 grains; sublimed sulphur, 105 grains; beta-naphthol and styrax ointment, each, 30 grains. Applications of this mixture should be made with strong friction every night for a week, then interrupted for six days when they may be repeated if necessary, although it is often useless to do so. If there is an appearance of small acute clusters, which generally show themselves toward the second day, the acne is ordinarily cured or very much ameliorated at the end of a week.

TRANSLATIONS.

THE CONGENITAL AND HEREDITARY ORIGIN OF CANCER.

Critzman (*Le Bul. Méd.* November 7, 1894) declares cancer to be a tumor developed at the expense of a preëxisting epithelium of which the histologic varieties engender tumoral varieties. The fundamental element of cancer is the epithelial cellule, and the malignity alone does not suffice to characterize this neoplasm. There may be eliminated, therefore, from the class of cancerous productions every neoplasm the primordial constituent element of which is drawn from the mesoderm (tumors of the connective tissue group.) Thus simplified, cancer still presents a certain complexity from the point of view of the causes invoked to explain its appearance and its evolution.

Why does cancer develop? What is its nature? Why does it generalize itself? The answers to these different questions are not wanting. The ancients, struck by the coincidence of cancer and the great emotions, chagrin especially, have attributed to the latter the responsibility of the neoplastic production, and, in modern times, the death of Napoleon succumbing after terrible grief to a cancer of the stomach is an impressive example. This must, however, be only an occasional cause. The infectious nature of cancer, its generalization, its inoculability have induced many savants to search in parasitic life the clue to cancerous productions. The germ has not as yet, however, been discovered. The cancerous graft has been clearly placed in evidence by Virchow. The epithelial cellule characteristic of cancer is equally its cause; effecting its division other than in sound tissue the cancerous cellule is a teratologic epithelial cellule, the proliferation of which will give birth to a monstrous epithelial tissue able to engraft itself by apposition and by generalization. Invading the lymphatic ganglions the cancerous cellule multiplies, and also gives rise to cancerous metastases which are in structure always identical to the tumor to which they owe their existence.

What is the origin of this epithelial cellule of which the development, always tardy, gives origin to cancer?

Cohnheim attributes to tumors in general a congenital origin. For teratomata, and especially dermoid cysts, this hypothesis has received its demonstration; for other tumors, and cancer in particular, the cause is explained most simply in the following manner: At an initial stage of the embryonic development there is produced in one of the portions of the fetal economy, more cells than are necessary for the construction of the part in question. These cells heap up in excess to a given moment, able to develop with all of the intensity of their embryonal nature under the influence of a banal cause which manifests itself, whatever may be its nature and its form, as a circulatory phenomenon—a hyperemia or an anemia. The experiments of Leopold seem to give reason of this conception. Fragments of fetal tissue taken during its intra-uterine life and introduced into the organism of a similar adult animal, continue not only to live but multiply in a manner truly surprising.

The congenital nature of cancer explains sufficiently the heredity of this tumor. Statistics of great value bear very conclusively upon this point. Cancerous patients are able to transmit by heredity cancer to their child. Butlin, who has attempted to construct the family history of cancer of the heart, has concluded that heredity is encountered in the proportion of 1 to 3.

A New Treatment of Whooping-cough.

Lyon Médical publishes an abstract of an article from the *Médecine Moderne* in which M. de Chateaubourg describes a new treatment of whooping-cough, which consists in injecting, subcutaneously, two cubic centimetres and a half of a ten-per-cent. solution of guaiacol and eucalyptol in sterilized oil. After the third injection the fits of coughing diminish noticeably, the appetite returns, and, as the vomiting rapidly ceases and the general conditions begins to feel the good effects of the treatment, the whooping-cough disappears at the same time. The author reported five cases.

*Translated for THE MEDICAL AND SURGICAL REPORTER by W. A. N. Dorland, M.D.

THERAPEUTICAL SUGGESTIONS FROM FOREIGN JOURNALS.*

CHLORATE OF POTASH AS A TOOTH
POWDER.

Dr. Unna (*Deutsche Medizinisch-Zeitung*, No. 103, 1894) recommends powdered chlorate of potash as the best tooth powder as well as for general disinfection of the mouth. The moist brush is dipped into the powder and as much used as it will take up. The profusely secreted mucus and saliva form a paste with which the teeth are easily cleaned; this is followed by a thorough rinsing of the mouth to remove the drug. The use of this tooth powder is followed for a long time, by a very clean and somewhat salty taste in the mouth, for it cleanses by producing a flow of the natural buccal secretions and its action is not confined to the mouth alone, but to the tonsils and fauces and to any portion of mucous membrane with which it may come into contact. He knows no better remedy which will remove fetidity of the breath, due to putrefaction of food and the secretions of the mouth. He has seen a great number of cases where patients have consulted physicians on account of a bad breath which led them to suspect either a disease of the nose, throat or lungs and which promptly disappeared after use of this simple measure. In cases of fissures or ulcerations in the mouth where the clear drug would cause a great deal of pain he employs a paste containing a smaller percentage and made after the following formula:

Calcium carbonate.....	}
Rhizoma Iridis.....	}
Soap.....	aa
Glycerine.....	}

Equal parts of this base and the chlorate are mixed; it is best dispensed in collapsible tubes. He knows of no better remedy for daily use, nor in the cleansing of the mouth and teeth in all infectious diseases and especially in stomatitis of mercurial origin.

RAPID STERILIZATION OF WATER.

Dr. Grimbert (*Apotheker-Zeitung*, No. 46, 1894) says that one may rapidly sterilize water and at the same time retain its gaseous and salts by placing it in a thick

glass bottle with a patent closing apparatus such as a beer or soda-water bottle and then placing it into a water-bath and keeping it there for one-half hour, at a temperature of 100° C. Water thus sterilized remains clear, of an agreeable taste and retains its salts in solution.

SILK SUTURE SILK IN ANTISEPTIC SOLUTIONS.

Dr. Van Ketel (*Pharmaceutische Zeitung*, No. 68, 1894) has attempted to discover why the solutions of the bichloride in which suture silk is kept in so liable to develop flakes due to various microorganisms. He has found, from experiment, that the silk extracts the antiseptic from the solution; even in the course of twenty-four hours it will withdraw the bichloride from a $\frac{1}{2}$ per cent. solution so that algæ will grow luxuriantly in it. He thinks it probable that the albuminoids and similar substances in the silk enter into combinations with the sublimate. Therefore, he would recommend keeping the silk in absolute alcohol and only placing it into a $\frac{1}{2}$ per cent. sublimate or a 1 per cent. sodium chloride solution immediately before using.

ERUPTION FROM SALICYLATE OF SODA.

Dr. Raff (*Muenchener Medicinische Wochenschrift*, No. 26, 1894), recently observed after administration of twelve grams (3iij), of the salicylate of soda to a woman of sixty years for an attack of rheumatism, the following condition, which set in after the first teaspoonful: face pale and swollen, great weakness and confined to her bed; both knee-joints greatly swollen and painful. The face presented reddish spots and vesicles behind the ears and the lips were covered with bloody crusts. The hands, arms and nates were covered with a pemphigoid eruption of vesicles and bleeding and oozing patches. Treatment consisted of application of borated vaseline and later, a continuous bath during the day. On the fourteenth day of the disease as a right sided pleuritis had developed and the articular affection remained unchanged the remedy was given again, in a dose of

*In charge of the translator, F. H. Pritchard, M.D.

one gram; in an hour and a half the patient had a chill and the next day a diffuse scarlet redness was seen to cover the whole body. The whole skin appeared, in toto, swollen, while the temperature was elevated. The following morning it had entirely disappeared. Eruptions have frequently been observed after salicylic acid either as erythema, urticaria, vesicular dermatitis, purpura or gangrene. Dr. E. Beier, of Berne, Switzerland (*Archiv F. Dermatologie und Syphilis* Bd. XXVIII, Hft. I) recently observed a similar case where after six grams (3jss) of the salicylate of soda an erythematous and pemphigoid eruption of the whole body appeared and, though the remedy was immediately discontinued it persisted and exacerbated after repeating the remedy, but with continued administration, decreased in severity. The local application either in plaster or solution also gave rise to local eruptions of vesicles. The case is of interest on account of the persistence of the symptoms long after discontinuing the drug.

BRANDY SUBCUTANEOUSLY IN CHLOROFORM ANESTHESIA.

Dr. Poncel (*Gazette des Hôpitaux*, No. 99, 1894) for the past four years has employed hypodermics of brandy in chloroform anesthesia and in five hundred cases has always avoided disagreeable complications. He follows, in administering the anesthetic, the drop-by-drop method and when the patient's face becomes pale and the pulse also becomes small and weaker, he injects brandy. The stimulant is diluted with two parts of water and kept ready in a hot water bath at about the body temperature. The outer side of the thigh is usually chosen as the point of injection and about a syringeful introduced into the circulation. The injection may be repeated if the condition of the heart requires it. In a laparotomy, on an average, ten syringefuls were used though as high as a hundred have been given. In cachectic subjects they are made before, during and after the operation. The results were most striking in those with heart diseases, alcoholists, consumptives, little children and old persons.

COCAINE IN DRAWING TEETH.

Dr. W. Lepkowski (*Central Blatt Fuer Chirurgie*, No. 51, 1894) uses cocaine

very extensively in dental work and is well satisfied with the results. A three per cent. watery solution is injected around the tooth, into the gum, until it turns entirely white, when further injection is quite painless. One should begin on the lingual side and as a rule, 0.007-0.015 will suffice for complete anesthesia. In extracting the last upper molar he warns against injecting into the fold of mucous membrane back of it as it is quite prone to be followed by symptoms of poisoning. As the first injection is a painful one he also applies to the gum a 10 per cent. solution and injects a 1 per cent. solution around the tooth. Injections into abscesses produce violent pain though one may safely inject into inflamed and infiltrated gums. He does not wait a few minutes after injecting but extracts at once. He has found by experiment that 1 per cent. and 3 per cent. solutions of cocaine arrest the development of cultures of pyogenic microorganisms.

IPECAC NOT AN OXYTIC.

Dr. A. Keilmann (*Petersburger Medicinische Wochenschrift*, No. 24, 1894) has tried the tincture of ipecac as an oxytic in weak uterine contractions as recently recommended by Drapes and Utt of St. Petersburg and denies that it has any such powers. He would rather advise pushing the head from above down into the pelvis, but under anesthesia.

PETROLEUM IN PULMONARY TUBERCULOSIS.

Dr. Pellissier (*Bulletin Général de Therapeutique*, Tome CXXVI, p. 416) observing that workmen about oil wells are rarely affected with consumption, tried the filtrated crude oil, in treating this disease. It was given in capsules and inhalations of its vapor used at the same time. The results, he claims, were astonishing; the cough and sweats disappeared, the appetite and sleep became normal and the affected portions of the lung healed. Attempts to give it in cysters failed from its slight absorption.

SULPHUR IN DIPHTHERIA.

Dr. C. G. H. Baemler (*Centralblatt Fuer Die Medicinischen Wissenschaften*, No. 47, 1894) speaks well of the local ap-

plication of sulphur in diphtheria. It is insufflated three to four times a day, in a goodly quantity, upon the affected mucous membrane. If the disease extend deep down into the trachea it is, of course, inapplicable. Its action seems to be purely local and therefore is only indicated in the early stages of the disease before general symptoms have set in.

THUJA OCCIDENTALS AS AN ABORTIFACIENT.

Dr. Kalt (*Schweizer Correspondenz-Blatt*, No. 8, 1894) reports the case of an unmarried girl of eighteen years, who seven months pregnant, drank a decoction of thuja occidentalis (arbor vitæ or tree of life). This was followed by a violent nephritis, cystitis, eclampsia and bronchial catarrh. Fourteen days after an abortion followed, the child living twenty-six hours. The placenta showed several infarcts. Eleven days after her labor thrombosis in both saphenous veins was noticed. She recovered only very slowly.

LEUCOPLASIA BUCCALIS AND EPITHELIOMA

Dr. Le Dentu (*Journal des Maladies Cutanées et Syphilitiques*, No. 11, 1894) states that leucoplastic patches in the mouth very frequently degenerate into epitheliomata. Without being a preceding stage of this form of cancer, yet there is a decided disposition to it on account of their predisposition to degenerate. Therefore as soon as one observes a leucoplastic patch to undergo papillomatous transformation or to present a fissure or ulceration, one should treat it surgically.

Dr. Rosenberg (*Ibidem*) speaks very highly of the iodide of potash in the treatment of leucoplasia buccalis. He advises a concentrated solution as follows:

Distilled water.....	100	o	3 iij, 5 j
Iodide potash	10	o	3 iijss

Apply locally by means of a camel's hair brush.

Treated thus he has seen a leucoplasia disappear which had lasted for seven years, and which had resisted the most varied treatment.

Dr. Leistikow (*Ibidem*) advises the following paste in the same disease:

Finely powdered silix.....	3	o	grs. xlv
Resorcine	6	o	5 jss
Lard	1	o	grs. xv

Apply this paste to the patches between meals and on going to bed upon small tampons, fixed in the mouth and rub

the patches also with it well. At the end of eight to fourteen days they will shrivel up, fall off and leave a red and congested mucous membrane. This is then treated with the balsam of Peru. Healing will take place little by little. The silix renders the penetration of the resorcine easier and acts as a mechanical adjuvant.

HYPODERMIC INJECTION OF SALT WATER IN PERNICIOUS ANEMIA.

Dr. K. E. Lindén (*Finska Läkaresällskapets Handlingar*, bd. 36, s 35, 1894) records a case of pernicious anemia where he employed subcutaneous injections of salt water with excellent results. Two injections in all were given, each containing 825 gms. of the following solution:

Cooking salt.....	4	o	3 j
Bicarb. soda.....	3	o	grs. xlv
Distilled water.....	1000	o	3 xxx j 3 ij

An improvement set in immediately after the first injection; the sensation of obscuration of sight disappeared, the somnolence decreased, and the appetite increased. Immediately after the second one the pulse became stronger and fuller, as well as slower, the abnormal sensations of taste and smell vanished, and on the third day, after this second one, the appetite was decidedly ameliorated and the general condition greatly for the better. Three weeks after he was able to be about.

ANTISEPTIC EYE SALVES.

Dr. Bach (*Lo Sperimentale*, No. 35, 1894) has experimented with a number of antiseptic eye-salves especially those with vaseline as a base, and he finds them of undoubted value on account of their decided antiseptic action. Those of iodoform, boric acid and yellow precipitate are however, without antiseptic properties. On the contrary, one of the bichloride, 1:3000 or the nitrate of silver, 2 per cent. will destroy the germs in a short time. These properties are not affected by mixing with other liquids as a solution of common salt or tears which is of great practical importance. Vaseline he has found to be a very poor soil for germs for it will remain sterile for a long time, and does not become rancid. Therefore, he advises hearty eye salves in preference to collyria, particularly, where the patient is to apply them at home.

BACTERIOLOGICAL NOTES.

THE BACILLUS OF THE PLAGUE IN CHINA.

The discovery of Kitosato of the specific cause of the plague which has caused such frightful epidemics in China, has already been announced. It was found that this terrible disease was one of the "filth diseases," and caused by a micro-organism which belongs to the septic bacteria. Yersin (*Ann. Inst. Pasteur*, VIII, 1891, p. 662) gives the results of further investigation of this organism. He found that the enlarged lymphatic glands in this disease contain large numbers of a short, stumpy bacillus with rounded ends. It stains readily with ordinary aniline dyes but does retain the coloring matter when treated after the Graus method. Frequently a polar stain is observed. Not infrequently a capsule is observed. It is easily cultivated on agar, glycerine-agar, blood serum, and in bouillon. The best medium was found to be composed of two per cent. alkaline peptone and one to two per cent. gelatine.

In these cultures this organism appears on microscopic examination, as short chains of bacilli, with bulgings in some places. Involution forms are frequent, especially in old cultures.

The pathogenesis of this organism is quite marked. Rats, mice and guinea-pigs when inoculated with the bubo-pulp invariably die with lesions characteristic of the disease and containing the bacilli in large numbers in the glands. The first tubes inoculated develop very slowly, but subsequently the cultures grow more rapidly but the virulence of the bacteria is diminished. By continued subcultivation they become innocuous for experimental animals. Feeding experiments showed that the disease could be produced by feeding as well as by inoculation. The specific bacillus of this disease has been found in flies and in the surface soil to a depth of from 4 to 5 cm.

IMMUNITY AS ILLUSTRATED BY EXPERIMENTS WITH CHOLERA.

Metschnikoff (*Ann. de l'Inst. Pasteur*, 1894, pp. 529-89) discusses the subject of cholera and vibrios in relation to immunity and intestinal cholera. The conclusions reached are of considerable interest and are appended without further reference to the details of his investigations:

1. "Local immunity cannot be explained by particular conditions which prevent the microbe from living, for it may be found beyond the cholera area and in places quite free from it.

2. "Local immunity cannot be regarded as an unconscious and permanent vaccination of the inhabitants.

3. "The blood of persons residing in exempt places does not protect against Koch's vibrio.

4. "The injection of cholera cultures does not protect.

5. "The development of the cholera vibrio is considerably affected when growing in association with other microbes.

6. "The immunity of animals to intestinal cholera is in a great measure due to the inhibitory influence of the flora of the gastro-intestinal canal on the cholera vibrio.

7. "As long as young rabbits are being suckled they are very sensitive to the cholera vibrio, and this cholera is aided by the action of certain microbes.

8. "Young guinea-pigs are less sensitive than young rabbits to intestinal cholera.

9. "Young rabbits cannot be vaccinated successfully against intestinal cholera either with sterilized or living cultures.

10. "Young rabbits may be occasionally vaccinated successfully by means of the serum of animals vaccinated against cholera peritonitis. Normal horse serum is useless.

11. "The attempts to prevent cholera by means of microbes have shown that bacteria exist in the alimentary canal in-

hibitory of the cholera vibrio, but at present the results are inconclusive.

12. "In the immunity and receptivity of man and animals to intestinal cholera, the microbic flora of the alimentary canal plays an important part. Relying on this

fact we may readily reconcile the fundamental truth that the vibrio of Koch is the specific cause of cholera with the data of epidemiology, especially with the influence of places and time on the progress of cholera epidemics."

INVESTIGATION OF COW-POX.

At the meeting of the Association of American Physicians, in Washington, D. C., 1894, Dr. H. C. Ernst of Harvard Medical College, read a paper on the bacteriological investigation of cow-pox. The material was largely from the work of Dr. Martin (deceased). A large number of cultures were made from the pustules and bacteria isolated with which the disease was produced in calves but rarely in children. The outcome of these investigations is briefly stated in the results formulated by Ernst (*Transactions Association Am. Physicians*, 1894):

1. "The germ of cow-pox is a bacterium.

2. "This bacterium is, in different stages of development, in the form of a coccus or of a bacillus.

3. "It can be isolated and grown in pure culture on blood-serum at the temperature of the blood.

4. "Inoculation on the calf from such cultures readily produces the typical cow-pox, while inoculations in man have, so far, produced typical cow-pox but once in eleven times."

Dr. Ernst continues that, all that remains to be done now is to find under what conditions to grow pure cultures that may be uniformly relied upon for vaccination in man.

PROTOZOA IN VARIOLA.

Siegel (*Deutsch Med. Woch.*, 1893, No. 2, p. 29) injected vaccine lymph into the peritoneal cavity of a calf and produced nodular excrescences on the omentum of this animal, which on cultivation yielded cocci. These micrococci when injected into the skin of calves produced pustules, but they were in no way comparable to the

vaccine process. Löeffler, in 1890, described protozoa and zoospores in the substance of, and between the epithelial cells from pock. These bodies have been looked upon by certain pathologists as nuclei and parts of nuclei, or more or less altered fragments of the epithelial cells.

OUT-OF-THE-WAY MEDICAL PRACTICE.

Those whose duties lie in towns where locomotion is easy, and where even night visits can be made in comparative comfort, can hardly realize the difficulties of medical practice in sequestered spots, and among sparsely populated islands. An apt illustration came under our notice last week, which will doubtless interest our readers to recapitulate. During a gale on Sunday night, a fire on the south end of Ailsa Craig, a bare and desolate rock in the middle of the Firth of Clyde, and the return of a homer pigeon, intimated that a doctor was wanted on the rock. As the weather was stormy and a heavy sea run-

ning right in the face of the Craig, it was deemed necessary to send off the life-boat, as an ordinary fishing boat could not have effected a landing. Consequently, Dr. Alex. McDougall, of Girvan, Argyshire, was taken out in the life-boat at 11 P.M. With some difficulty he was landed and found that one of the lighthouse keeper had been blown down by the gale and that three of his ribs were broken. The life-boat returned with the doctor at 10 A.M. next day after a dangerous trip of eleven hours; a professional visit rather out of the common run, and not far removed from heroism.—*Med. Press.*

CORRESPONDENCE.

ADVISABILITY OF VACCINATION DURING THE EXISTENCE OF A SKIN ERUPTION.

EDITOR MEDICAL AND SURGICAL REPORTER:

DEAR SIR:—The question as to the advisability of vaccinating a person during the course of an eruption of the skin having been frequently in evidence, I take the opportunity at the present time to make answer through the medium of your journal. Within the past few months the question certainly has arisen more than at any other time owing to the apparent fear that we would be visited by an outbreak of variola. It is certain that the patients themselves often fear vaccination during the existence of the skin condition, because of the danger of making their feelings much worse than they have been with the cutaneous manifestation. While this is to a certain extent well founded, I do not think any one will be afraid when they are aware that no

danger to life will intervene. Within the passed few days the question has been asked by the parent of a child having psoriasis, he stating that wherever the child was bruised he would be confronted with a new psoriasis lesion in a few days. Naturally one would hesitate before giving a positive opinion in such a case, on account of the supposed idea that psoriasis often occurs after wounds of any character. Having been asked an opinion in this case I did not hesitate to give the following advice, that I thought it would not be inadvisable to vaccinate. And I cannot hesitate to give the same opinion in cases of any eruption of the skin. I would advise that vaccination be performed in any case of an eruption of the skin. J. ABBOTT CANTRELL, M.D.

315 South Eighteenth St., Phila.

MORPHINISM IN CHILDREN.

EDITOR MEDICAL AND SURGICAL REPORTER:

SIR:—I am desirous of adding to the clinical literature of morphinism in children, and if any reader of your journal has

noted a case and will send me details, I'll appreciate the favor and give full credit.

J. B. MATTISON,
Brooklyn, N. Y.

THE INFLUENCE OF ALUM, ETC., ON DIGESTION.

It is generally believed that aluminum compounds, which have been used extensively in the adulteration of flour and in baking powders, both impede digestion and have an injurious effect on the digestive organs. In a recent series of experiments by Bigelow and Hamilton (*Jour. of the Amer. Chem. Soc.*) the influence of these compounds was studied, not only upon the digestive action of pepsin and hydrochloric acid, but also upon artificial digestion in pancreatic juice. Alum interfered materially with the action of the gastric juice, but the pancreatic juice ef-

fected the digestion of the remaining portion of food, which should have been digested by the pepsin. The same was true of the digestion of matters containing aluminum hydroxide. The action of aluminum phosphate was quite different, however, for notwithstanding the supposed insolubility of this compound, ten or twelve per cent. of the albuminoids which were digestible in the presence of alum or aluminum hydroxide appeared to be insoluble in the presence of an equivalent amount of the phosphate.—Ernest Ellsworth Smith, Ph.D.

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SATURDAY, MARCH 23, 1895.

EDITORIAL.

TENEMENT HOUSES AND PUBLIC HEALTH.

The New York Legislature of 1894 enacted a law authorizing the Governor to appoint seven citizens and residents of New York, as a committee, to be known as the Tenement House Committee, to make careful examination into the tenement houses of the city of New York; their conditions as to construction, healthfulness, and any other phases of the tenement-house system that affect the public welfare. This committee has made an elaborate report. It went about its work in an intelligent manner, seeking through every possible avenue information upon the subjects referred to it for consideration. The questions considered and answered in the report have a vital lesson for every city of any considerable population, especially for those of commercial importance, for ports of entry, and wherever there is homed or housed a large foreign element.

While the local conditions affecting tenement-house life in New York may be

somewhat unique, the same conditions, to a greater or less degree, exist in all great centers of population. In all our great commercial cities there are large foreign and native populations crowded into extremely narrow limits. The report puts the facts strongly, and their truths will apply to Philadelphia as well as to New York:

“The personal observation of the committee and the testimony of numerous witnesses show that the over-crowding of the population, both as to house and district, has evil effects of various kinds; keeping children up and out of doors until midnight in warm weather because the rooms are almost unendurable; making cleanliness of house and street difficult; filling the air with unwholesome emanations and foul odors of every kind; producing a condition of nervous tension; interfering with the separateness and sacredness of home life; leading to the promiscuous mixing of all ages and sexes in a

single room, thus breaking down the barriers of modesty and conducing to the corruption of the young, and occasionally to revolting crimes."

The law must regulate these matters, they cannot safely be left to the landlords. In their greed for excessive rents, landlords would consent to crowding the rooms of their tenement houses with human beings layer upon layer. The law only, and that vigorously executed, can secure and regulate more favorable conditions for the future tenement house. It is startling to reflect that eight-fifteenths, or a little over one-half of the total population of the great city of New York, live in what are generally called tenement houses. This reckoning does not include the better class of rented houses. The death rate of these houses is very much higher than in single houses. Kears tenements are veritable slaughter houses of children. These are generally cut off from air and sunlight; the buildings old, dark and damp; decay and long occupancy have pervaded every nook and corner, have permeated their very walls with the seeds of disease.

One best known cause operating to increase the death rate, is density in population. One of the best means for minimizing the evils of overcrowding is by letting in more air and sunlight; this in the interest of both public health and public morals. This end can be served by numerous judiciously distributed and well arranged park spaces. Pure air and strong light render impossible many evil conditions. In the distribution of these rest, recreation, play-ground spaces, consideration should be given to the matter of their proximity to our public schools. These institutions for the development of vigorous men and women too often are destitute of room for recreation and healthful exercise. This is *criminal*.

Here in Philadelphia, we have, along the Delaware and Schuylkill rivers, exten-

sive shore lines; and it would be practicable and certainly greatly contributive to public health, comfort and pleasure, to have small parks connected with some of the many docks along the shores of these rivers. Thus supplying healthful conditions; letting in air and sunshine; furnishing places of rest and recreation for all classes, and breathing places and playgrounds for those who cannot often get out into our greater suburban parks. Such parks could be so located as not to interfere with commercial interests. In addition to the importance of these small parks as health requisites, as inlets of light and air, they would add greatly to the beauty of the city. Many sections along the rivers named are overcrowded; many of them are tenement localities with dense populations in need of breathing spaces, for men and women, and playgrounds for children. Nothing better could be supplied than the refreshing, healthful air of the rivers. "There is no reason in humanity why an enormous portion of our population should be permitted, year after year and generation after generation, to live without those alleviations which the health and comfort of the people require and civilization demands."

Such parks should be established with strict regard to local conditions; to system and science; to character of buildings, density and character of population

Further, where the population is densest there is the least personal, household and general cleanliness—the chiefest factor in promoting individual and public health. The principle obtaining in aseptic surgery should be given a more general application.

The importance of these facts are growing to be more fully realized. There is a growing demand for more municipal bath-houses. The basin or tub will no longer answer the demand. The report we refer to very strongly puts the case in relation to these baths:

"The freer use of water by the tenement house population would aid them very materially in their struggle for existence, by assisting the elimination from their systems of the poisons absorbed in the sunless and airless dwellings. That several hundred thousand people in the city have no proper facilities for keeping their bodies clean is a disgrace to the city and the civilization of the nineteenth century. These facilities have been used and are abundant in many enlightened nations, and they are being increased in every way possible. The amount of money annually spent for charity amounts to millions, and the question arises whether it be not greater economy to spend more for the preservation of health and the prevention of disease, because less would then be required for the support and care of the sick and helpless. The cultivation of the habit of personal cleanliness has a favorable effect, also, upon character; tending to self-respect and decency of life."

Dr. Albert Shaw states that municipal baths have been a great success wherever established in Europe.

"The public baths of Glasgow are six

or seven in number, and have cost probably \$600,000, or in round figures, \$100,000 for each establishment. They contain great swimming tanks for men and women separately, and have every kind and sort of tub, shower and special baths, and offer very special inducements to school children. A small charge is made, school children in some of the towns not paying more than half a penny, one American cent, for a bath." These baths are so conducted as to make them nearly or quite self-supporting.

These questions are all of urgency, and should receive the prompt and enlightened consideration of state and municipal authorities. With greater precautions and wiser provisions for the public health, there will be less demand upon private and public charity, fewer drafts upon State and municipal treasuries for the support of public institutions. Economy, humanity, every consideration of the public welfare appeals to legislative and municipal authority to do more along the lines suggested and less to promote the enterprises of Professional Philanthropy.

PETITS SOINS.

A little care and effort on the part of mother or nurse will often give a child that chiefest beauty in a face, fine eyelashes. While the baby is asleep on the knees, if there is any tendency to inflammation or redness, she can softly bathe the eyelids with diluted witch-hazel, quite warm, or with a mixture of half a dozen drops of spirits of camphor with two teaspoonfuls of borax and four ounces of water. The borax, however, although exceedingly soothing and purifying, has a tendency to create dryness, and this has to be counteracted by rubbing in with very gentle motion some soothing and enriching ointment—cold cream, vaseline, mutton tallow, or even common lard that one has "tried" over one's self to make sure of its purity. This ointment should be applied very delicately, as it is apt to promote the growth of hair, and the hair

is desired nowhere but on the brows and lids. Often when the lashes are thin and short, pale and irregular, showing little strength, a nightly application of vaseline will do them a great deal of good, the richness being absorbed by the capillaries, and reappearing in a longer and stouter growth of lash; and vaseline or some pure emollient oil rubbed at night along the brow will take out all stiffness from the shorter hair there, darken the color, and make the arch, which is often but half finished, more complete. Although in Colonel Higginson's *Malbone* some one suggests that Emilia's eyelashes are too long for anything but full dress, yet in truth no eye ever has a lash too long for beauty, the length and thickness and lustre of the lash giving shadow that means darkness, and lifting of the shadow that means brilliancy.—*Harper's Bazar*.

ABSTRACTS.

REPORT OF CASES OF OPIUM-POISONING SUCCESSFULLY TREATED
BY PERMANGANATE OF POTASSIUM.

Dr. William Moor, of New York, (*Med. Record*, March 2, 1895) gives an account of some cases of opium-poisoning, which were reported to him, together with one occurring in his own practice.

CASE I., reported by Dr. T. S. Buist, of Charleston: "On February 13, 1894, at 12 m., I was called in haste to see a young woman (white), nineteen years of age, who had taken by accident one and a half ounces of laudanum. The poison had been taken at 10 a.m. The first medical aid arrived at about 11 o'clock. Condition upon my arrival: Pupils of both eyes contracted to the finest possible point, eyes dull and glassy, dropping of eyelids; insensibility to external impressions, pulse slow and intermittent, respiration slow and labored; almost utter inability to sustain the body upon the limbs. At once a hypodermic injection of one-sixteenth grain of atropine was given, and the result watched with the utmost interest. At the end of thirty minutes all symptoms were aggravated. I ordered as soon as could be procured: Potass. permang. gr. vj.; Aq. destill. 3 j. At 12.45 I injected ten drops of this solution in the arm. In ten minutes the patient's locomotion improved. In fifteen minutes she spoke and begged to be allowed to sleep. Pulse stronger, respiration more regular. Allowed to rest in a chair for five minutes, profound sleep coming on. Patient aroused and ten drops of the permanganate solution introduced in the other arm. The effects in ten minutes were wonderful. Susceptibility of the pupils to light manifest, consciousness returned. Patient in fifteen minutes hysterical and crying; pulse, 76; respiration, 20 per minute. By six o'clock in the evening all symptoms had passed away and a complete recovery was the result."

CASE II., reported by Dr. Edwin De Baun, of Passaic, N. J.: "On March 3, 1894, at two o'clock in the morning I was awakened by a man who told me he had swallowed seven grains of morphine by

mistake for quinine, a half hour before. While relating his experience at first he seemed very lucid, but on further questioning him his speech became thick and he began to sway from side to side, and implored me to be quick, as the drug was taking rapid effect. I told him to walk about the room, while I went to the inner office and prepared twenty grains of the sulphate of zinc in solution. On returning I found my patient on the floor on his hands and knees trying to keep his head from striking the floor. I raised him, gave him the sulphate of zinc, sat him on a chair and returned to the office for permanganate of potassium. I dissolved ten grains of it in half a glass of water, which only took a few minutes, and when I again returned to my patient, he was lying on his back on the floor, having fallen from the chair where I left him. I administered the permanganate solution, again raised him and placed him upon a chair where I could watch him, while I telephoned for Dr. A. C. Pedrick and sent for two policemen, who took the man into the open air. In the meantime the stomach-pump was made ready. After walking the man a short distance, he went so rapidly under the influence of morphine, that they were obliged to carry him back. We sat him on the back stoop and by this time Dr. Padrick arrived, and together we tried the time-honored stomach-pump, which, of course, did not work. We gave him twenty grains more of the sulphate of zinc, which did not act. In a few minutes the man was in a profound stupor, and nothing but the severest handling could arouse him, and then only to elicit a groan, there being no voluntary motions. It was now impossible to administer any medication by the mouth. Therefore we determined to wholly rely on the efficacy of the permanganate of potassium, hypodermically. Three grains were administered by means of a two-drachm aspirator, thinking that the more dilute the solution, the less irritating to the tissues.

The first hypodermic was administered one hour and a quarter after the morphine was taken; the second hypodermic in fifteen minutes, and the last hypodermic fifteen minutes later, using in all, hypodermically, nine grains, which made a total of nineteen grains. It was not until the last hypodermic that he showed signs of voluntary motion, and this was only evinced by raising his leg and scratching it. He soon regained consciousness, and was able to answer questions intelligently, although when left to himself each time would lapse into a sleeping condition, from which it was difficult to arouse him. He was taken into the house and one half hour later was able to walk with the assistance of the two policemen. He was now walked to Dr. Pedrick's office, a distance of about five blocks, where he stayed during the remainder of the day, and made a rapid recovery."

The fact that the emetic did not act, and the stomach-pump did not work, and as it was impossible to either walk the man or arouse him by violent manipulations, shows conclusively that the permanganate of potassium must have saved his life.

Before reporting my own case I shall give an account of some animal experiments, the reason for which will be readily understood. As the reader has noticed, the permanganate in Case I. was administered only hypodermically. In a private letter which Dr. Buist directed to me he refers to some reports regarding animal experiments I undertook. Those reports were premature, and I must confess I was surprised when I heard of Dr. Buist's case and of other cases in which the antidote apparently was effective, even if given hypodermically. Still I remained sceptical and left it to comparative experiments to determine whether or not the much discussed chemical body had any antidotal virtues with regard to opium if administered hypodermically.

As to those premature reports alluded to, the simple truth about them is as follows: Having found that the antidote would select morphine in the presence of albumin and other organic matter, it came to my mind that this selective power would also manifest itself upon morphine which was held in solution by blood, the latter being principally a solution of albuminous matter in water, and that, therefore, in-

travenous injections of the antidote might be useful in cases of opium poisoning. In order to substantiate this idea I gave a good-sized rabbit a hypodermic injection of one grain of morph. sulph., followed in fifteen minutes by an intrajugular injection of three-fourths of a grain of potass. permang. (1 to 15), and sixteen minutes after this by another intrajugular injection of one-third of a grain of $Mn_2O_8K_2$. Two hours after the initial injection of morphine, the animal's respiration was 46 per minute, rising to 48 after three hours more.

Another rabbit of the same size also received one grain of morphine, but no intrajugular injection of permanganate. Thirty minutes later the animal's respiration was 14 to the minute and one hour after this only 12. Five hours after the injection of morphine the animal still breathed only 14 times per minute. The normal respiration of rabbits is 70 to 90 per minute. The intravenous injection of the antidote, therefore, was unquestionably of benefit to the animal thus treated.

To determine the value of hypodermic injections of permanganate in cases of opium poisoning, I used four good-sized rabbits, each weighing about three and one-half pounds (avoirdupois) — 1,585 grammes. By giving them hypodermic injections of morphine followed by injections of potassium permanganate, and at a subsequent period only injections of morphine, I was able to draw conclusions as to the value that hypodermic injections of the antidote would have on morphine that was absorbed into the circulation.

RABBIT I.—Received two grains of sulphate of morphine hypodermically at 9.22 A.M., March 1, 1894. Respiration extremely rapid, from fright. At 9.28 I injected four grains of $Mn_2O_8K_2$ in one drachm of water. At 9.32 respiration 120 per minute. At 9.45 the animal is semi-lethargic, but his ears are erect; breathing a great deal slower (50 per minute). After this his breathing gradually improved, being 64 at 10.12, and 60 at 10.22 A.M.; 10.26 A.M., injected two grains of potassium permanganate in one drachm and a half of water; 10.36 A.M., respiration, 76, semi-lethargic, ears erect; 11.15 A.M., respiration, 76; 12.40 P.M., respiration, 153; 1 P.M., respiration, 160; 1.25 P.M., respiration, 150; animal struggling vigorously if held suspended by the

ears, general appearance of the animal not lethargic; 2 P.M., power of locomotion begins to return; 2.30 P.M., locomotion much improved; 7 P.M., locomotion entirely restored; 11 P.M., respiration exceedingly rapid, about 200.

March 2d, 8 A.M. The animal drinks water with avidity and takes food; is quite lively; respiration normal (95).

RABBIT I.—Injected two grains of morphine sulphate on March 4th at 1 P.M. At 2.45 P.M., the animal is in a completely lethargic condition; respiration, 26 per minute. At 3.25 P.M., slower, 22; 4.20 P.M., respiration, 21; 5.10 P.M., the same. At 5.50 P.M., the animal is still unable to move voluntarily, but breathes somewhat faster (24). At 7.45 P.M., the power of locomotion begins to return, breathing easier and quicker, being 70 per minute. At 11 P.M., the breathing is somewhat slower (62).

March 5th, at 8 A.M., the condition of the animal is about normal.

Thus we see that the administration of Mn_2O_3K , resulted in a decided improvement in the breathing and general condition of the animal. The difference between the results of the two experiments as regards the number of respirations per minute is certainly striking. The heart-action in these two instances and also in the following experiments did not offer any characteristics:

RABBIT II.—Injected on March 2d, at 9.14 A.M., two grains of sulphate of morphia. Respiration, 170; 9.18 A.M., animal is somnolent, lies flat on its abdomen, ears flat on the back; 9.20 A.M., respiration, 31; 10 A.M., respiration, 22; the animal is perfectly motionless if suspended by the ears; 10.8 A.M., injected three grains potassium permanganate (1 to 15); 10.16 A.M., injected three grains more of the potassium salt; 10.22 A.M., respiration, 32; 11 A.M., somewhat less (30); moves about at times; 12.15 P.M., breathing slow (16); 12.25 P.M., injected two and a half grains of permanganate; 12.40 P.M., breathing improved (27); the animal struggles quite vigorously if held by the ears; is much less lethargic; moves about voluntarily; 12.50 P.M., respiration, 34; 1.20 P.M., animal moves about if put on the floor, power of co-ordination quite fair, tries to escape when approached; 1.45 P.M., breathing faster (38), regular; 2 P.M., respiration, 45, regular; locomotion

normal; hardly any signs of lethargy; 9 P.M., respiration, 58, animal is quite lively, drinks some water.

RABBIT II.—Injected on March 6th, at 11.20 A.M., two grains of sulphate of morphia; 11.50 A.M., the animal is completely lethargic, eyes glassy, breathing slower (38); 12.43 P.M., respiration, 22; 1.30 P.M., still less (19); 4.30 P.M., respiration, 14; does not struggle if held up by the ears; 11.30 P.M., locomotion improved. The animal was found dead at 7.30 A.M., March 7th.

RABBIT III.—Injected two grains of sulphate of morphia on March 3d, at 8.20 A.M.; 9.55 A.M., completely lethargic; respiration, 20; 10 A.M., injected four grains Mn_2O_3K , (1 to 15); 10.20 A.M., respiration, 31; 10.27 A.M., injected four grains of the potassium salt; 10.43 A.M., the animal is much less lethargic, moves about voluntarily, struggles vigorously when held by the ears; 11.13 A.M., respiration, 50; 2.30 P.M., much slower (26); 3 P.M., injected four grains potassium permanganate; 3.05 P.M., respiration, 30; 5.20 P.M., faster (47); 10 P.M., the animal is asleep, but the slightest disturbance will awake it; when held by the ears it struggles vigorously. Locomotion fair, showing perfect co-ordination; 10.20 P.M., the animal being disturbed ran fast a distance of sixteen feet.

March 4th, 8 A.M., the animal is quite lively and well.

RABBIT III.—Injected two grains of sulphate of morphia on March 6th, at 11.30 A.M.; 12.30 P.M., respiration, 200; 1.35 P.M., respiration, 48; 4.35 P.M., respiration 40; lethargic; 11.30 P.M., the animal breathes fast (90).

March 7th, 8 A.M., the rabbit is drowsy, but breathes very rapidly (130); 10 A.M., still drowsy; 3 P.M., same condition.

March 8th, 8 A.M., respiration labored (84), becoming more and more difficult and slow; 8.10 A.M., the animal is in extremis, has convulsions, shrieks peculiarly five or six times, dies at 8.15 A.M.

Thus rabbits II. and III. succumbed to two grains of morphine when no permanganate was used to antidote the morphine.

RABBIT IV.—March 6th, 12.20 P.M. Injected three grains of sulphate of morphia; 12.35 P.M., four grains of potassium permanganate; 12.40 P.M., respiration, 80; 12.55 P.M., respiration, 40; 1 P.M., semi lethargic; 1.05 P.M., four grains

MnO₂K₂; 1.16 P.M., respiration, 42; 1.40 P.M., respiration, 35; locomotion fair; 2.50 P.M., respiration, 24; able to move voluntarily; 3.05 P.M., four grains potassium permanganate; 3.20 P.M., respiration, 32; 3.40 P.M., respiration, 40; 11.20 P.M., respiration 62; the animal is quite lively, locomotion perfect.

March 9th, 8 A. M., the animal is perfectly well; respiration 74.

RABBIT IV.—Received an injection of three grains of sulphate of morphia on March 11th at 11.25 A. M.; 11.40 A. M., completely lethargic; respiration, 26; 1.15 P. M., respiration, 24; 4.45 P. M., respiration, 22; completely lethargic. At 7 P. M. the condition of the animal is greatly improved.

March 12th, 8 A. M.—Recovery complete.

A comparison of these last two experiments will show that the injection of the antidote were of decided benefit, inasmuch as they were always followed by improvement in the breathing and the general condition of the rabbit. From an unbiased consideration of the foregoing eight experiments I was justified in concluding that hypodermic injections of potassium permanganate are of great value in opium-poisoning. The question arises, how does the antidote act when thus administered?

When we consider, on one hand, the wonderful affinity of Mn, O, K, for morphia, and on the other hand, the rapidity of the circulation, it appears quite intelligible that the antidote should select the poison in question from among the albuminous ingredients of the circulating blood, and thus render it harmless. Of course, part of the permanganate will be deoxidized before it can enter the circulation but evidently enough of it is absorbed to accomplish its wholesome mission.

I relate a case of opium-poisoning which occurred in my own practice.

CASE III.—On April 6, 1894, at 8 A.M., I was sent for by Dr. Henry Altschul, of this city, to assist him in a case of morphia poisoning. On my way to the place I procured one ounce of a 1 to 15 solution of potassium permanganate (gr. xxxij. to ʒj. aq.). On arriving I found the patient, a young man of twenty-four years of age, in a condition of absolute insensibility, resembling a corpse. His

face was livid; his pupils contracted to the size of a pin's point; his respiration—four times per minute—spasmodic and stertorous; his pulse slow, rather full. It was utterly impossible to arouse him or to make him react to any external impression. Dr. Altschul had been with the patient since 7 A.M., resorting to artificial respiration, injections of apomorphine, which produced no emesis, and giving strychnine and atropine hypodermically. As the patient was naturally unable to swallow, I sent to the nearest pharmacy for a medium-sized hard rubber catheter, also a piece of rubber tubing about one-half of a foot long, into which the catheter should fit, and for a glass funnel to fit into the rubber tubing. Meanwhile, in order not to lose time, and having in my mind the results of the animal experiments cited above, I gave the patient a hypodermic injection of 50 minims of the antidotal solution (3½ grains of potassium permanganate). This was at 8.30 A.M., half an hour after I was called. At 9 A.M. I administered 15 grammes of the original permanganate solution (16 grains of the antidote), diluted with a cupful of water. This I did by introducing through the patient's nose into his œsophagus the hard rubber catheter, which I had connected with the glass funnel by means of a piece of soft-rubber tubing, and by slowly pouring into the glass funnel the diluted antidotal solution as mentioned above. At 9.30 A.M., the patient's respiration had risen to eight per minute; but it was still impossible to arouse him. I therefore gave him another injection of 50 minims of the permanganate solution. A few moments later he gave the first evidence of returning locomotion power by violently tossing with his legs. Soon after this he began to show signs of returning consciousness. At 10.15 A.M. the patient could be made to walk with the assistance of two men. A few minutes later he cried bitterly, embraced and kissed his father, and answered rationally questions that were put to him by those present. Then he asked for black coffee and accepted a cigar, which he smoked vigorously and seemed to enjoy. By questioning him we found out that he had taken, at 6 A.M., one drachm of powdered opium, and for this purpose had filled thirteen gelatine capsules (No. II.) with the opium. We

found the empty drachm box at the place indicated by the young man.

At 11 A.M. I gave him seven or eight grains more of the antidote per os, and left him in my colleague's care. The next morning, April 7th, he was practically well and wanted to leave the house in order to make a business call.

Such a quick recovery after such a quantity of poison ingested—sixty grains of opium—and after a fatal issue had seemed almost inevitable is so remarkable that it fully justifies my claim set forth, that permanganate of potassium is the antidote par excellence for opium.

CASE VI., occurring in Pittsburg, Pa., reported through the kindness of Dr. Robert P. Finley, of Altoona, Pa.—Patient had taken three ounces of laudanum and was brought to the hospital in a moribund condition, three hours after having taken the poison. No reflex response, respiration four to the minute. As a last resort, after every other means had failed, eighteen and three-quarter grains of potass. permang. were given hypodermically, in the space of two hours and fifty-five minutes. In four hours from the first injection he was perfectly conscious, complaining only of sleepiness.

Up to this date I am cognizant of twenty-one cases of opium-poisoning, in which the therapeutic agent recommended by me as an antidote has been used with unmistakable success, although it is fair to assume that many other cases were not reported.

In the *Canadian Practitioner*, September, 1894, there appeared an able article from the pen of Professor Graham Chambers, of Toronto, in which he comes to the same conclusions I put forward in my original article on the subject. There is only one point on which my opinion differs from that of Professor Chambers. He says $Mn_2O_3K_2$, subcutaneously, is poisonous. Now I have shown that rabbits stood hypodermic injections amounting to twelve grains without any deleterious effect, and in the case reported by Dr. R. Finley (Case IV.), the patient had received nearly nineteen grains hypodermically. The mere fact that dogs are as susceptible to the action of manganese does not prove that $Mn_2O_3K_2$, given hypodermically in moderate doses to man, would have any toxic effect. Facts point to the contrary. I might state here that Dr. De-

Baun's suggestion (see Case II.), to dilute the antidote for hypodermic use as much as possible, is an excellent one; one grain to one drachm of water seems to me a good proportion. Of course, for its use per os, it should be diluted in a much greater proportion, so as to bring in contact with it as much of the walls of the stomach as possible.* It might, perhaps, not be unimportant to emphasize once more, in order to avoid mistakes, that permanganate of potassium is not an antidote for all kinds of toxic substances. I have clearly demonstrated that it has absolutely no effect upon atropine, hyoscyamine, hyoscine, cocaine, veratrine, pilocarpine, aconitine, that it could not be depended upon in strychnine-poisoning, in poisoning by oxalic acid and colchicum preparations. I have also shown that even after sixteen hours of contact, phosphorus was not oxidized by potassium permanganate. In connection with this it is highly interesting to know that "peroxide of hydrogen, with all its energetic oxidizing action, has no effect on phosphorus, a substance which is so readily oxidized by the air."

In addition to the foregoing, I found that $Mn_2K_3O_8$ has practically no effect upon muscarine and caffeine, especially in the presence of albuminous matter, and just a little oxidizing power over hydrocyanic acid, although, strange to say, it at once decomposes cyanide of potassium.

Eye-Strain a Cause of Nocturnal Enuresis.

Dr. George M. Gould reports a number of cases of children who were afflicted with nocturnal enuresis, that were cured by correction of the ocular defect by glasses. In most of the children the involuntary urination was accompanied by many other nervous symptoms, such as night terrors, headaches, chorea, etc., nearly all of which were also relieved or cured by glasses that corrected the visual anomaly. Some of the patients had undergone operations and treatment that had extended over years without relief of the trouble.—*Med. News.*

* It is now a well-established fact that the mucous membrane of the stomach secretes morphine which had been absorbed into the circulation, and that this secretion continues for many hours.

A MEDICAL VIEW OF MODERN FICTION.

The American Medico-Surgical Bulletin thus editorially discourses on this interesting subject:—

"Among physicians, 'The Heavenly Twins' is looked upon, not as a literary venture to be judged by artistic standards, but as a readable presentation of symptoms which suggest definite pathological conditions.

"'Ships that Pass in the Night,' is admirable as a pulmonary record, and 'The Yellow Aster' affords an insight into the psychic phenomena resulting from neglect of natural instincts and desires, which, surviving the appropriate period of life, subsequently assert themselves in the form of belated maternal love and *ex post facto* philoprogenitiveness.

"In the latter work, the mother of the heroine allows her children to grow up without receiving a single sign of maternal tenderness, but is overtaken before her death by a most singular form of retribution—a sudden and consuming desire for the society of babies and on overpowering craving to lavish upon children the accumulated stock of motherly love which had not found its appropriate and seasonable outlet. Most of the infants in the neighborhood being provided with mothers, who supply the required amount of caresses, the unfortunate woman dies of a plethora of pent-up baby-talk and unpended maternal affection, but is happily given time to warn her daughter against a similar fate.

"As to Miss Harraden's book, while we find it useful in the profession for its glimpses into refined sick room conversation and pulmonary *persiflage*, we regret, from a medical point of view, that after giving such a careful history of the heroine's case, the author permitted her to be killed by an omnibus. It is humiliating, after following attentively the course of the disease and the method of treatment, to be dismissed without hearing the result of the autopsy. Moreover, we found her style so delightful that we would have gladly followed the hero to his last hemorrhage; but that, too, was denied us.

"Sarah Grand's cases are open to the same objection of incompleteness. She starts out enticingly with such a character, for instance, as Edith's husband, but

leaves the later and more interesting phases of his pathological history untold. As a general rule, however, she comes up to the requirement of modern fiction; the case of most of her characters can be diagnosed; and with a little more clinical experience we have no doubt that her future novels will be above reproach. She will stand unchallenged as the novelist of venereal diseases, just as Du Maurier is first in the fields of hypnotic romance, and Beatrice Harraden in the department of laryngeal and pulmonary complaints.

"There is danger lest, in the first stages of the medical movement in literature, young writers will attempt to cover too wide a pathological area in their novels and forget the inexorable law of specialism that obtains in the medical profession itself. The specialistic tendency in medicine must prevail in medical fiction or the results will be unreliable and superficial. There are neurotic episodes in Mrs. Grand's otherwise consistently venereal work, which we cannot condone. To introduce a paretic or ataxic patient in a dermatological novel would not only destroy the unity of the story, but would justly expose the author to a suspicion of a want of thoroughness. If the writer has determined upon appendicitis as his plot, he should not waste his energies upon irrelevant diseases in his minor characters. He could gain variety by introducing other forms of enteric disorders, but should never exceed the limits of the abdominal region. Until he has had a thorough medical training, we think the course of a single disease should supply him with all the medico-literary material that he can handle in an intelligent manner. A blow on the head supplied the author of 'God's Fool' with all the plot that he needed; Ibsen's 'Ghosts' is simply the dramatization of an inherited brain disease; and many a successful short story is based upon a case of simple mania with delusions. There will be time enough for the combination of various ailments in a single work when each of the departments of pathology has its special novel. The task will then be easier because the author can gather the fruits of the labors of others; but, at present, there is no excuse for such a sacrifice of unity and thorough-

ness. We have no novel of the ear, no drama of the digestive organs, no romance of the kidneys, no pastels of the intestines; and these are only a few of the countless fields for literary and artistic honors.

"There are some who will sneer at this, as if the organs of the human body were unfit themes for artistic literary treatment. Ridicule will be thrown on the pioneers of the movement; of course, that is to be expected; but they will persist, nevertheless, and eventually succeed. Not only will

the novel of the future contain an ever-increasing amount of medical material, but there are signs of a similar tendency in poetry. Anatomical verse is even now not uncommon, nor is it without serious intent, as is shown by the following stanza describing the mechanism of phonation:

"The larynx now goes up;
The pharynx with a slam
Ejects the note
From out the throat
Pushed by the diaphragm."

AN HISTORICAL CASE OF DIPHTHERIA.

The influence which epidemic disease has had upon the course of history is a curious subject for speculation, but most of the instances which have been adduced by various writers who have occasionally touched upon the subject, have been instances of wide-spread epidemics, such as the plague at Athens, and the "Black Death" in England; but the effect which certain infectious diseases, more or less constantly present in temperate climates, may have had upon historical events is less clearly perceived. A curious instance is afforded by the death of Napoleon Charles, Prince Royal of Holland, the son of Louis, brother of Napoleon Bonaparte and of Hortense, his stepdaughter. This child died, when not quite five years old, of a disease, which, there can be little doubt, was diphtheria. The boy was a favorite of his imperial uncle, and was generally taken to St. Cloud when Napoleon stayed there in the summer. Though Napoleon never seems to have expressed himself clearly upon the subject, it was thought by many that he proposed to make this child, who was his nearest male relative in the second generation, his heir. Among those who shared this opinion was Meneval, who, as private secretary to Napoleon, had special opportunities of forming an opinion as to the Emperor's intentions. If this child had lived, Napoleon, Meneval thinks, would not have divorced Josephine; would not, therefore, have exposed himself to be insulted by the Emperor of Russia's refusal of the hand of a grand duchess; and, in all probability, would not have gone to Moscow, and might therefore, very possibly have founded a lasting dynasty. It is

curious to remember that this boy's brother—his uterine brother at least—did actually sit on the throne of France. Napoleon, who was very much moved by the death of his nephew, offered a prize of 12,000 francs to the author of the best work on the means of preventing and curing croup. The boy died on May 5, 1807, and Meneval remarks that the superstitious looked upon it as a curious coincidence that Napoleon himself died on the same day of the same month fourteen years later.—*New Orleans Med. and Surg. Jour.*

Removal of Tatoo Marks.

For obliterating tatoo marks Dr. Variot pours on the marked spot a concentrated solution of tannin, and works it into the skin by series of pricks just as in tatooing proper. A certain quantity of tannin is thus introduced beneath the skin. He then rubs the part with nitrate of silver, and allows the solution of the salt to remain in situ until the prick marks show out as black points. The caustic is then wiped off, and the result is the formation of a black stain of tannate of silver. Inflammation is set up, and in the course of a fortnight scabs form, on the disappearance of which no trace is left of the original design, the only souvenir being a reddish scar, which in time becomes less visible. Various other plans had been tried without success, scarification, the introduction of opaque powders and caustics into the skin, etc. The tannin, in his operation, acts as a mordant and in no case did he have to deal with troublesome suppuration, although if the area be large it is well to do a piece at a time.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISON J. MORRIS, M.D., AND SAMUEL M. WILSON, M.D.

IN THE BUFFALO MEDICAL AND SURGICAL JOURNAL

Dr. Herman Mynten reports

A Case of Nephrectomy.

The patient was a man 22 years old who for 17 years had attacks of pain in the back and left lumbar region, and symptoms of renal calculus. During the last five months the symptoms had increased, and the patient had night sweats, lost greatly in weight, had a poor appetite and slight dry cough.

Tenderness on pressure was great in the left lumbar region—less, though present in the right, and no tumor could be found by careful palpation.

Under cocaine anesthesia a successful cystoscopic examination was made and a mass of pus seen to exude from the unhealthy orifice of the left ureter, while the right was seen to be normal.

After stimulation for a couple of days with strychnia, whiskey, nutritive enemata, etc., nephrectomy was performed under chloroform anesthesia and a badly diseased kidney containing over a pint of pus was found and removed. After the escape of the pus the remaining part of the tumor weighed twenty eight ounces.

Two large calculi were found in abscesses in different parts of the structure.

As soon as the immediate shock of the operation passed away the patient began to improve.

Two weeks after the operation a fecal fistula showed itself, due to the adhesions which had existed with the colon; but this healed in a couple of weeks. Great gain in weight began, and about two months after the operation the patient resumed work in a machine shop.

The case is interesting not only on account of the successful result in a case which had progressed so far before operation, but because the diagnosis made by the cystoscope avoided the exploratory incision which otherwise would have been necessary.

Dr. Clayton M. Daniels reports

Two Peculiar Cases of Hernia.

In the first case an Italian laborer was struck a severe blow which caused a painful swelling in the groin. Examination showed an undescended testicle which was removed, the spermatic cord being stitched into the internal abdominal ring to occlude it. In the second case a woman had been subject for some time to an inguinal hernia and attempting to use a new truss was caused so much pain by it that the author was sent for, and found a prolapsed ovary, which he removed using the ovarian ligament to close the inguinal canal as before, and in this way he thinks obtaining a permanent cure.

IN THE BROOKLYN MEDICAL JOURNAL

Dr. Calvin F. Barber gives his experience with some

Fatal Cases of Chorea.

This disease he states is frequently regarded as one of no vital importance unless some organic lesion is to be discovered. Physicians frequently order some trifling treatment and dismiss the case as a trivial affection. The author has seen some fatal cases, and in one in which an autopsy was obtained could find no lesion to account for the symptoms. The percentage of mortality he thinks much higher than it is commonly thought to be.

Dr. Louis C. Ayer gives a summary of his observations in the

First Four Months of Diphtheria Cultures in Brooklyn.

The tubes provided were not in general demand at first, and the cultures were frequently improperly made, or their return delayed so much as to make a satisfactory diagnosis difficult or impossible.

The diagnosis made by the physician was correct in the majority of cases, but in a considerable percentage it was wrong, sometimes diphtheria being diagnosed when absent, sometimes vice versa. The importance of having an absolutely certain diagnosis in these cases is of course self-evident, and increasing interest in the subject is being steadily shown.

JOURNAL OF CUTANEOUS AND GENITO URINARY DISEASES.

Dr. James Bell reports

Two Cases of Syphilis, Etc.

These cases are given to add to our information on the period of communicability of this disease.

In the first case a man, in otherwise good health, contracted a chancre, and in about three months, when the secondary symptoms were well marked, was given systematic general treatment under which all symptoms disappeared in about three months.

The treatment was continued however for a couple of years and the patient married a few months later. Two months after his marriage his wife developed a chancre, and this was followed by constitutional manifestations, more than two and one-half years after their total disappearance in her husband.

In the second instance a man ended a farewell supper to his bachelor friends by getting intoxicated and then contracting a chancre which, however, did not develop until several weeks after marriage. The wife had meanwhile become pregnant and was put on constitutional treatment, although she showed no symptoms of infection. At turn she was delivered of an apparently healthy child.

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

Contribution to the Study of the Ætiology of Rheumatic Affections of the Body Due to Tonsillar Diseases.

Dr. H. L. Wagner writes in the *N. Y. Medical Jour.*:

The tonsil has been justly termed by Gerhard a physiological wound—an inlet into the system guarded by leucocytes, which we have learned of late protect the body against the invasions of various microorganisms. If through inherited or acquired predisposition the energy of these leucocytes is diminished, or if the tonsil in a diseased state does not allow these corpuscles to migrate, then a soil may be given for infectious diseases, such as diphtheria, scarlatina, amygdalitis, etc.

The sequences which sometimes follow these diseases are important to observe—paralysis of various parts of the body after diphtheria, and also articular rheumatic affections following follicular amygdalitis. The results gained by clinical studies and bacteriological investigations in follicular amygdalitis, followed by rheumatic affections, are what I particularly desire to refer to.

The question which presents itself is, whether these rheumatic affections are produced by the germs (*Staphylococcus albus et aureus*, Fraenkel's pneumococcus, etc.) migrating from the tonsillar tissues into other portions of the body, causing rheumatism, or whether they remain in or about the tonsils, sending forth and distributing their ptomaines or poisonous products into the system.

The results of my investigations which I will give you in brief, show in follicular amygdalitis a migration of these germs, proving that rheumatism here is not caused directly by ptomaines.

Clinical observations show that the joints which are mostly in use are the ones generally affected; for instance the arytaenoid cartilages of the larynx of singers (five cases), the knee joints of shoe dealers, owing to the constant kneeling posture (two cases), and the wrist joint of a violinist, (one case) and bookkeepers (two cases). Referring to the two cases above mentioned, where rheumatism of the knee joint developed, the bacteriological investigation showed that the synovial fluid obtained by tapping of the joint contained the same microorganisms as were found in the diseased tonsil. I was also able to identify the same germs in the urine of nearly all the cases. The family and clinical history of all these patients showed no signs of rheumatism before the attack of this tonsillar disease.

Absorptive Power of the Vagina.

Coen and Levi (*British Medical Journal*), have recently made some observations on the

absorptive power of the vagina under various conditions of health and disease. Iodide of potassium is easily absorbed. If a tampon soaked with a 20 per cent. solution be introduced into the vagina, iodine can be found in the urine in an hour. The excretion reaches its maximum in twenty hours and ceases in forty-eight hours. Fever and pregnancy increase the absorption. Hysterectomy makes no difference. Iodoform is absorbed slowly and in very small quantities, but more if fresh than if old. Salicylic acid is absorbed quickly, appearing in the urine in one hour and disappearing in twenty-four hours. Salol is very readily absorbed. Antipyrine is excreted in an hour and a-half and is found for forty-eight hours, but its antipyretic action is feeble as compared with administration by the stomach. In brief, the vagina has undoubted absorptive power, and this is increased in pregnancy, in the puerperal state, and in pyrexia.

SURGERY.

Appendicitis.

Dr. Wyeth (*Medical Record*) says: "Given a surgeon of experience, a clean operator, who, with a minimum of traumatism to the intestines or contiguous viscera can remove a diseased appendix, and it would be better for exploratory laparotomy to be done in every instance within the first twenty-four hours of the disease. On the contrary, were I the subject of an attack, and not sure of my surgeon, I would keep flat on my back, quiet peristalsis and voluntary motion with morphine and take the chances of resolution, encapsulation by adhesion or rupture into the intestine. Good medical treatment gives the patient a better chance than a poor surgeon."

Pyoktannin in Epithelioma of the Ear.

The case described is one of epithelioma of the ear in which injections of pyoktannin caused a disappearance of the neoplasm. The left pinna was very prominent, had a large swelling in front of the ear, and the skin over the mastoid was adherent and discolored. Pyoktannin injections (one in five hundred, one in three hundred, and then one in one hundred) were used. The growth hardened and became more defined after two injections, and the pain was relieved. Death took place sixty-five days after the first injection, and at the post-mortem examination no epithelioma was found in the tissues in front of the ear.—*Dr. Wilkins in Brit. Med. Jour.*

Ruptured Gastric Ulcer Successfully Treated by Abdominal Section and Suture.

T. H. Morse (*Brit. Med. Journ.*) The patient, a young lady aged twenty, having had symptoms of gastric ulcer, was suddenly seized with pain, followed by faintness and vomiting. The pain, which was of a burning character, commenced over the region of the stomach, and gradually extended all over the abdomen. Abdominal section was performed nearly five hours after the commencement of symptoms; the contents of the stomach were found in the peritoneal cavity. The stomach was withdrawn, and a perforation found on the anterior surface close to the cardiac orifice. The organ was washed out and the perforation closed with Lembert's sutures; the stomach was returned, the peritoneal cavity washed out, and the wound united. No food was given by the mouth for sixty hours, and at the end of three weeks the patient was quite well. The author had not up to the present time seen a record of any other successful case of this kind in this country, though cases had been reported by Drs. Penrose and Dickinson, also by Mr. Gilord and Mr. Barling, and by Mr. Warrington Haward, references to which were to be found in the *Brit. Med. Journ.* of the past year.

Mr. Barwell, in the discussion, said that he had been able to find twenty-five cases on record of closing a rupture in the stomach wall, and there were at least four others. In one of the twenty-five cases there was a localized abscess close to the small curvature; this abscess was opened, and that was all that was found to be necessary. He then described Kriege's case. Mr. Barwell suggested the following points, which he thought might point the way to success: First, to operate as soon as possible; secondly, that the incision through the abdominal wall should be to the left of the middle line; thirdly, to search very thoroughly the front wall of the stomach, as in these cases the opening was for various reasons liable to be hidden by lymph, puckering, etc. He suggested that it might be advisable to introduce into the patient's stomach some colored fluid, such as coffee, for this purpose. He could not agree with Mr. Haward that it was necessary to cut away the margin of the ulcer before suturing the stomach. He thought that Mr. Morse had done very wisely in washing out the stomach, and also in eschewing antiseptics in washing out the peritoneum. Mr. Barwell had seen very good results in washing out the peritoneum with warm distilled water in restoring patients from collapse during abdominal operations.

Surgical Treatment of Pulmonary Cavities.

Dandridge maintains that tuberculous cavities in the lower portion of the lung, if single and superficial, should always be opened, provided the patient will allow the operation. Abscess, gangrene and hydatid cysts should be opened and drained when their position can be clearly ascertained. The cavities

should be treated by packing with iodoform gauze. It must be ascertained that adhesion of the lung has taken place, and the most perfect surgical technique must be employed.

Aristol in Otorrhea and Burns.

Dr. Krebs, of Hildesheim, has found aristol—which is a di-iodide of thymol occurring as a brownish powder and containing nearly half its weight of iodine, and which has been used for the last three or four years in various skin diseases, ulcers, burns, keratitis and nasal affections—very valuable in aural practice. In thirty-three cases of chronic purulent otitis, aristol alone effected a complete cure in twenty-two. He does not consider it to be an antiseptic, as it does not deodorize a discharge, but he finds that it has a marked effect in drying up and arresting the secretion. In serous discharges of a chronic character persisting after the purulent character has disappeared aristol is preferable to all other drugs, and especially to boracic acid. Often one or two insufflations are sufficient to arrest the serous discharge. It is also of value in chronic otorrhea when uncomplicated and where the perforation is a large one; also in cases where there are granulations of the tympanic cavity and meatus, provided they are not too extensive, and that they are not due to caries of the bone. Aristol should not, however, be used where there is but a small perforation in caries, or where the mastoid antrum is affected, and it is useless in fetid otorrhea, though, if the fetor is due merely to want of cleanliness, the ear should be cleaned, and boracic acid, which is a true antiseptic, blown in. According to Dr. Haas, burns and scalds of all kinds are not satisfactorily treated by means of aristol, which is, chemically speaking, biniodide of thymol. His plan is to disinfect the burnt surface with a boracic lotion and to open the blebs; aristol gauze is then applied, and this is covered with sterilized cotton wool, gutta-percha paper, and a bandage. He does not recommend the application of aristol in powder direct to the wound at the beginning, as this is calculated to hinder the dressing from soaking up the secretion. Later, however, when this has diminished, the aristol may be applied either in substance or in the form of a ten-per-cent. ointment made up with olive oil, vaseline and lanoline. Dr. Haas collected a large number of references to reports by continental and American surgeons on the use of aristol in burns, a treatment that is by no means very novel, as Dr. Stern, of New York, employed it successfully more than three years ago. He, and most of the writers referred to by Dr. Haas, employed a ten-per-cent. ointment or a solution of aristol in oil from the beginning. The great advantages of aristol are its analgesic action, its antiseptic properties, and its power of hastening cicatrization. Added to these, which to some extent are shared by iodoform, is another great advantage, viz., its entire harmlessness. In this it differs from iodoform, which is unsuitable for application over an extensive surface, for fear of its exerting a toxic action.—*The Lancet*.

The Antiseptic Treatment of Burns.

An eminent French surgeon recently concluded an article with the above heading in the following words:

1. Fresh, superficial burns, as well as deep ones, can heal under antiseptic treatment without the production of pus.

2. If pus is produced, the wound is disinfected, and the course remains the same as if non infected. But if the pus is of long standing and the wound begins to granulate, then disinfection is not possible.

3. To disinfect widespread burns an anesthetic will often be necessary, and to this end chloroform is best suited.

4. If the wound is non-purulent, the unnecessary use of an antiseptic hinders the healing process.

5. Antisepsis is the best analgesic.

6. Burns heal rapidly under the antiseptic treatment. Burns of the second degree require eight days; of the third degree, from two to three weeks.

7. Burns of the second and third degree heal without trace remaining; of the fourth degree, cause a scar, which does not retract, while this will be smoother the less the amount of pus.—*Charlotte Med. Journ.*

Surgical Tuberculosis.

For abscesses, ulcers and joint affections: Open freely, and excise if joint be involved. Remove the caseous material by curetting; sponge the parts well and arrest the bleeding. Fill the cavity, through a thick rubber tube, with salt solution kept at the boiling-point; fill and empty the cavity until it is thoroughly cauterized. Or, fill the cavity with a cold or lukewarm salt solution, and raise the liquid to a boiling-point by introducing into it the blade of a thermo-cautery at red heat. One minute is sufficient to heat the water in a cavity as large as a pigeon's egg. Do not touch the walls of the cavity with the blade of the knife. Give an anesthetic if necessary, though usually cocaine locally will be sufficient.—Jeannel, *Midi Medical*.

Internal Urethrotomy and Forcible Dilatation.

Cantalupo (*Brit. Mer. Jour.*) advocates internal urethrotomy in hard strictures where a dilator cannot be introduced, or, if introduced, cannot be opened (in which case he uses Maisonneuve's urethrotomy). The wound in internal urethrotomy is much less extensive than in forcible dilatation, and the dilatability of the stricture is much greater after urethrotomy than after division. The chief dangers are: (1) Hemorrhage; this may be avoided by using small-bladed instruments—for example, Bottini's. (2) Extravasation of urine; best avoided by retaining a catheter of less calibre than the divided stricture, and using some drainage tube as a siphon. (3) Pyemia may be excluded by antiseptic measures. (4) Fever, generally due to local retention of pus. Cantalupo finds a fresh indication for internal urethrotomy in cases of chronic gleet with stricture, where, after

dilating the stricture up to a certain point, it still cannot be dilated up to the calibre of the second part of the urethra.

A Bloodless Operation for Hemorrhoids.

Manley (*Boston Med. and Surg. Jour.*) describes his bloodless method of treating hemorrhoids. A brisk purgative is given the evening before the operation. Before operating, two to four ounces of whiskey are administered, and effective cocaineization applied hypodermically. Anal dilatation, gradual and steady; without rupture of the muscle, is done, and, after drying and mopping with cocaine solution, each hemorrhoid is separately seized, close to its base, firmly between the tip of the thumb, index and middle fingers. It is put on full stretch, then twisted, and finally so completely crushed that it is reduced to a pulp, and none of the investing tunics remain, except the mucous membrane and its under stratum of fibrous tissue. The mass is then returned, and an opium suppository introduced. He has treated thirty-five cases in this way with perfectly satisfactory results.

ARMY AND NAVY.

CHANGES IN THE U. S. MARINE HOSPITAL SERVICE FOR THE FIFTEEN DAYS ENDING MARCH 9, 1895.

The leave of absence for seven days granted Captain Paul Clendenin, Assistant Surgeon, is extended twenty-one days.

The Attending Surgeon at Boston, Mass., will attend the sick at Fort Warren, Mass., during the absence of Captain Clendenin.

1st Lieutenant George D. De Shon, Assistant Surgeon, is relieved from duty at Fort Logan, Colorado, and ordered to duty at Fort Douglas, Utah.

Captain Freeman V. Walker, Assistant Surgeon, is granted leave of absence for one month, to take effect upon his relief from duty at Fort Trumbull, Conn.

Leave of absence for six months, on account of sickness is granted 1st Lieutenant Frank T. Meriwether, Assistant Surgeon, U. S. Army.

CHANGES IN THE U. S. ARMY FROM FEBRUARY 16, 1895, TO FEBRUARY 23, 1895.

Carter, H. R., Surgeon: To assume temporary command of Cape Charles Quarantine during absence of P. A. Surgeon: T. B. Perry, February 27, 1895.

Kalloch, P. C., Past Assistant Surgeon. Directed to rejoin station Cincinnati, Ohio, February 21, 1895.

Perry, T. B., Past Assistant Surgeon: To proceed to Brunswick, Georgia, Quarantine, for temporary duty, February 27, 1895.

Houghton, E. R., Past Assistant Surgeon: Granted leave of absence for ten days, February 18, 1895. Leave of absence extended five days February 22, 1895.

Blue Rupert, Assistant Surgeon: To proceed to San Francisco, California, for duty February 23, 1895.